

IMMUNIZING MORE CHILDREN TOWARDS GREATER COMMUNITY PARTICIPATION



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Abstract

The primary objective of this study was to design an effective communications campaign for the promotion of community participation in large-scale immunization programmes. A secondary objective was to suggest strategies for the efficient delivery of immunization services at the field level.

Baselines for deriving recommendations in both these respects were provided by the strategies that had been employed during the Intensive Immunization Programme (IIP) that had been held in Delhi a few months earlier.

The sample for this study consisted of a total of 488 women living in Trilokpuri and Khanjawala, the two areas in which the Delhi IIP had been conducted. These women belonged to one of four categories; those whose children were

- totally immunized during the Delhi IIP (Group 1)
- totally immunized before the Delhi IIP (Group 2)
- partially immunized after the Delhi IIP (Group 3)
- not immunized even after the Delhi IIP (Group 4)

Data collection was done with the help of personal interviews which were conducted according to a pre-designed structured interview schedule. All interviews were held at the respondents' homes. The areas that were investigated during the interviews included 'Information About Immunization', 'Attitudes towards Immunization' and 'Facilities For Immunization'.

Three major methods were used for the statistical analyses of the data obtained:

- (a) The responses of women in Group 1 were compared with those in Groups 2, 3 and 4.
- (b) The number of 'correct' responses given by each group was compared to the total number of possible responses for the same group.
- (c) Detailed comparisons of the different responses were presented with the help of bar graphs and pie charts.

The major recommendations that emerged from this study include the following:

- (1) The initial focus of communications campaigns in immunization programmes should be on conveying one message—that children can die if they are not immunized.
- (2) Shortly after the introduction of this key message in a community, the mothers would need to be informed about where and when immunization facilities would be available within their localities.

- (3) After the women bring their children for immunization, they may have to be given further information about various aspects of immunization.
- (4) Just before and after each immunization round, the mothers would have to be reminded that unless children receive *all* the required doses, they are still susceptible to the different diseases.
- (5) Interpersonal communication, as well as several forms of mass media, can be used effectively in motivating mothers towards immunizing their children. The use of each of these communications media, however, necessitate a series of precautions.
- (6) All forms of media should be used simultaneously to convey the same messages during the immunization programme: repeated exposure to a message aids its internalization.
- (7) Apart from the mothers of young children, communications campaigns on the subject of immunization need to aim, to some extent, at three other target groups: young children's fathers, their paternal grandmothers, and older children of primary and secondary school age.
- (8) In terms of the effective delivery of services at the field level, the Delhi IIP proved satisfactory. With a few additional precautions, this experiment might be used as a model for large scale immunization programmes in the future.

Immunizing More Children Towards Greater Community Participation

Every year, hundreds of thousands of children in India are victims of five easily preventable diseases—poliomyelitis, tuberculosis, diphtheria, whooping cough and tetanus. It is estimated that each day, almost 750 Indian children are afflicted by poliomyelitis. Tuberculosis causes bone deformities or death in several hundred thousands of Indian children every year. Large numbers of children die on account of diphtheria, while many others suffer permanent damage to the heart and brain because of this disease. Whooping cough ravages the respiratory systems of thousands of children, and around 250,000 infants die each year because of neonatal tetanus (UNICEF, 1984 a).

The situation described here is much the same in almost all developing countries. Estimates indicate that every six seconds, one child dies and another becomes disabled as a consequence of diseases that can be prevented with immunization (Grant, 1984).

Reacting to this widespread incidence of child deaths and diseases, a world-wide enterprise, the Expanded Programme on Immunization (EPI) was launched in 1978. More than 130 countries in the developing world have now introduced their own EPIs, with the collective aim of achieving universal immunization by the end of the year 1990 (Henderson, 1984).

The Expanded Programme on Immunization has received tremendous inputs all over the world, in terms of technology, resources and manpower. Despite all the efforts that have been made, however, current estimates indicate that the target that has been set may not be achieved by the end of this decade (Henderson, 1984). Different countries have faced different kinds of problems in their move towards universal immunization, such as a dearth of technical expertise, funds and equipment, organizational problems and so on. However, reviews of past experiences indicate a constant thread—the major obstacles in most immunization programmes are not technical or scientific, they are generally human and organizational (Henderson, 1984).

A problem that constitutes among the greatest challenges that programme planners face is that of motivating communities to participate in immunization programmes that are organized for them: it has been clearly established that a lack of involvement by the local people has greatly diminished the success of several immunization programmes in the past.

Ensuring Community Participation

Why are people sometimes unwilling to avail of immunization facilities that are brought to them? Past experiences have indicated that there is one major reason for this phenomenon—a lack of awareness of the need to immunize children.

Nigeria

The target coverage has been eluding us. There are a number of constraints and it is difficult to estimate their relative importance. But the first problem is that the understanding of the value of immunizing children is not there.

(Black, 1983, p.30)

Malawi

. . . the success of an immunization programme depends on its being accepted by the public. . . (Therefore, campaigns must monitor) parental awareness of the need for immunization.

(Grant, 1984, p.44)

India

(Among the more important programme imperatives) is an intensive awareness campaign to convince mothers *why healthy children should be immunized* and where they can have this service. . . The time must come when superstition, ignorance and apathy end and all mothers ask for vaccination to be given to their babies. We have to hasten its advent.

(UNICEF, 1984 a, p.11)

As is evident from the passages cited, literature in the field is replete with recommendations which strongly advocate that parents must be 'informed and educated' about immunization. These recommendations are based on the premise that knowledge leads to action. Viewed in a very broad sense, this assumption can be accepted as being valid. Concomitantly, however, it is extremely important to recognize that not *all* knowledge leads to action—health education campaigns must be selective and discriminating in identifying informational messages that are conducive to community action, as also in selecting appropriate strategies for conveying this information.

Returning to the issue of motivating communities to participate in immunization programmes, two sets of vital questions confront us:

- (a) *What* exactly must the parents be informed about? What are the kinds of information that would motivate women to immunize their children—must they be given any, some or all details about the names, causes, symptoms and immunization schedules of each of the preventable diseases?
- (b) *How* must the information be conveyed? Which forms of media would be most appropriate in conveying messages on immunization? If major messages are identified, at which stages of the immunization programme must they be conveyed?

All too frequently, programme planners in the field of health education have made somewhat arbitrary decisions in this context. It has been found, for instance, that several health education programmes in the past have not been at all selective in terms of the information they have conveyed—they have disseminated a bulk of information at one time, which has helped only to confuse audiences (Archer & Fleshman, 1975; Ramachandran & Dharmalingam, 1983)

Similarly, communication techniques have often been implemented without any pretesting in the field. In Pakistan, for instance, a media campaign was launched some years ago to advocate the consumption of iodized salt. The posters used during this campaign portrayed unveiled women afflicted with goitre. Shortly after the campaign had begun, not a single poster could be found intact—they had all been torn down by a conservative Muslim community which strongly disapproved of women ‘revealing’ themselves in this way (Mason & Azhar, 1982).

Again, during a family planning programme in a remote Asian community, bamboo poles were used in demonstrating to men how condoms were to be used. Several months later, the trainers were confronted by groups of angry young women who were pregnant. Investigations revealed that the men had kept their condoms at the ends of their bamboo poles (Okwesa, 1982).

Myriad instances of a similar nature can be cited from several parts of the world. And each of these instances points firmly to one conclusion—before designing any communications programme for promoting community involvement, it is necessary to have a thorough knowledge of the targetted audience. There have been altogether too many unfortunate instances in the past where publicity materials have been evaluated for their relevance and effectiveness only *after* their large scale production (if at all). Apart from leading to tremendous wastes of time, money and resources, the continued adoption of such strategies may well prevent audiences from sharing ideas that could help them improve their lives; and in some cases, may even communicate negative ideas and messages (Haaland, 1983).

Conversely, prior investigations of audience needs and characteristics help not just in making a judicious selection of the major messages to be conveyed, but also aid in determining the exact contents of relevant messages and in making choices of appropriate media forms (Okwesa, 1982).

An additional word of clarification seems necessary at this point. In some instances, programme planners have based recommendations for designing communications campaigns on surveys that have not been truly *in-depth* explorations of the targetted audience groups. Instances in point are seen in the case of a series of studies that were conducted in South East Asia between 1981-83. These studies aimed at identifying why some mothers did not have their children fully immunized. Respondents in these studies were directly asked why their children were not immunized, and a majority of them gave the response that they had not known about the availability of immunization services. Conclusions made on the basis of these responses were

...the reason parents do not fully immunize their children is not, as expected, because they lack motivation and are afraid of immunization or reactions, but rather because they were not informed of the availability of immunization services. ...If information on the availability of immunization services and where and when immunizations can be obtained was widely announced and publicized, it should lead to a dramatic increase in coverage.

(WHO South East Asia Region, 1983, p.2, 14)

This conclusion seems highly questionable for a number of reasons. Firstly, it is based on the surmise that all the women in the samples were *actually* highly motivated to have their children immunized, but were prevented from doing so because of a lack of information about services. There does not appear to be substantive evidence to support this assumption. On the other hand, it may well be argued that the women who did not know about immunization had actually lacked motivation to begin with, and therefore were not interested in making enquiries about immunization facilities.

Secondly, the recommendation that communities must be informed about immunization facilities would probably solve (if at all) only half the problem that is faced. While this may remove *obstacles* in the way of immunization, would this measure, on its own, suffice to motivate mothers towards actively *seeking* immunization services? To put it in simple—even if somewhat clichéd—terms, the horse brought to the water may not necessarily drink.

In summary, whenever communications campaigns are designed for raising awareness about immunization, it is essential that details of the campaigns be determined on the basis of in-depth and thorough investigations of the targetted communities.

Other Obstacles to Community Participation

Past experiences in the field have indicated that apart from a lack of information, two other factors may prevent mothers from having their children immunized. The first of these has to do with inconveniences encountered while having the child immunized. Several problems in this context have been noted in the past, including incidents where the time scheduled for immunization has been inconvenient for the mothers, the centres have been located too far from the women's homes, the mothers have had to wait too long at the immunization centres, immunization personnel have been impolite to the women and so on (Henderson, 1984; WHO South East Asia Region, 1983).

Another major obstacle to community involvement relates to cases of illness following immunization: a high incidence of sickness among children after an immunization round may well be the undoing of the entire programme, as seen in the experience of a community level worker in Delhi

When we go to collect children for immunization, their parents say that the last time (there was an immunization camp), many children got abscesses. So they don't want to send their children now. The neighbours also get scared—they don't send their children either—that's the problem (we face).

(UNICEF, 1984 b)

The Delhi Intensive Immunization Programme

Some Background Information

Between December 1983 and March 1984 a large scale experiment, the Intensive Immunization Programme (IIP), had been conducted in Delhi. This experiment had been launched with the objective of introducing new and efficient strategies for large scale immunization programmes which, if proved successful, could be used as models for similar endeavours in the future.

Two areas were included in the IIP: Trilokpuri, an urban resettlement area, and Khanjawala, a rural area. Demographic profiles of the two areas are presented in Appendix 1.

During the Delhi IIP, techniques for ensuring community participation had been clearly demarcated at the outset. The onus was on using community level personnel for face-to-face communication with the mothers. At the start of the programme, local anganwadi workers¹ were involved in conducting house-to-house surveys in the two areas. The objective of these surveys was to identify children who were eligible for immunization in each area. Numbers were allocated to all houses, and computerized records were maintained about all children below the age of 6 years — their names, immunization statuses and so on. (For a sample of the computer sheets, please refer to Appendix 2).

After each round of immunization during the IIP, all computerized data were brought up-to-date. With the help of these records, the anganwadi workers were able to identify which children were due to be immunized during each new round of immunization. The mothers of these children were reminded about each round just before its implementation. Further, on the day of each round, the workers went around their respective localities, contacting the mothers of all children who were due to be immunized on that day. Children who failed to attend an immunization round were later followed up by the anganwadi worker (UNICEF, 1984 a).

Other communications inputs that were used during the IIP included a series of five printed posters which carried information about the diseases prevented with immunization, the schedule of immunization for these diseases and so on. Immunization cards were also prepared for all eligible children. These cards indicated the number of doses of vaccines that the children had yet to receive, as well as the date of the next immunization round (Appendix 3).

Facilities at the field level

In order to ensure that mothers were not inconvenienced while having their children immunized, several precautions had been observed during the Delhi IIP. All the mothers had been given ample notice about the dates and times scheduled for the immunization rounds. The camps were held in local anganwadis; therefore, there was at least one camp within walking distance of all mothers' homes. Further, each immunization team consisted of four personnel—one for administering the DPT injections; the second for administering the polio vaccines; the third for maintaining records; and the fourth, the anganwadi worker, to collect the

¹ Anganwadis are centres for preschool children which are operated as a part of the national Integrated Child Development Services scheme in India.

beneficiaries (UNICEF, 1984 a). Given this division of labour, it took a maximum of 1-2 minutes to immunize each child (Sapra, 1984). This helped considerably to avert the problem of mothers having to wait too long at the immunization centres.

To avoid cases of infection following immunization, the strictest codes had been maintained for the proper sterilization of all equipment during the Delhi IIP. Reusable glass syringes were sterilized through the process of autoclaving, and one needle and one syringe was used per child to guard against the carrying of any infections (UNICEF, 1984 a).

Rationale and Objectives

The impetus for this study came from a recognition of two major facts: firstly, that community involvement is crucial for the success of any large scale immunization programme; and secondly, that strategies for promoting community participation must be based on prior and in-depth studies of the targetted communities.

The major objective of this study was to provide recommendations for the promotion of community participation in future immunization programmes. Suggestions were to be derived on the basis of investigations with women in Trilokpuri and Khanjawala—the two areas in which the Delhi IIP had been implemented. The primary focus of the study was to be on developing appropriate communications strategies for large scale immunization programmes, with some additional comments on the effective delivery of services at the field level.

Methods

The Sample

The sample for this study consisted of a total of 488 mothers, whose children belonged to one of four categories: those who were

- totally immunized during the Delhi IIP (Group 1)
- totally immunized even before the IIP (Group 2)
- partially immunized after the IIP (Group 3)
- not immunized even after the IIP (Group 4)

Table A indicates the reasons for seeking respondents in each of these four categories, as well as the break-up of the sample in terms of the different groups.

The Selection

While determining the size of the sample for this study, it was decided that a minimum of 400 mothers would be interviewed. Of these 400, 200 women would be selected from each of the two areas (Trilokpuri and Khanjawala). Again, of the 200 mothers in each area, 50 mothers were to be identified for each of the four categories outlined in Table A. The objective, then, was to interview a total of at least 50 mothers in each of the four categories (based on the child's immunization status) in each of the two areas included in the Delhi Intensive Immunization Programme.

In order to facilitate processes of data collection at later stages of the study, it was decided that the samples in both Trilokpuri and Khanjawala be restricted to mothers who lived fairly close to each other. In both areas, all the women who lived in one neighbourhood brought their children to the same anganwadi. Therefore, the procedure adopted for sample selection was to first select (on a random basis) clusters of 15-20 anganwadis which were in physical proximity. From the population attending these anganwadis—again, on a random basis—the samples in the two areas were identified, with the help of the computerized data that were obtained during the Delhi IIP.

The Instruments

Data for this study were collected with the help of a structured interview schedule (Appendix 4). This schedule was designed to elicit responses from mothers in three broad areas:

TABLE A
Mothers Included in the Sample

Group	Description	Basis for inclusion in the sample	Number of mothers	
			Trilokpuri	Khanjawala
1	Mothers of children who were not immunized before and totally immunized after the IIP.	To investigate the role of the IIP in motivating mothers to have their children immunized.	62	60
2	Mothers of children who were totally immunized even before the IIP.	To identify factors - other than those relating to the IIP which motivate mothers to have their children immunized.	65	70
3	Mothers of children who were not immunized before and only partly immunized after the IIP.	To investigate why - despite the IIP - some mothers did not have their children totally immunized.	57	77
4	Mothers of children who were not immunized even after the IIP.	To identify factors which prevent mothers from having their children immunized.	35*	62
TOTAL:			219	269
			488	

* Within the cluster selected for the sample, only 35 women belonging to Group 4 could be located in Trilokpuri.

1. Information About Immunization

This included investigations of

- (a) awareness of the need for immunizing children
- (b) knowledge of the names, causes and symptoms of the different diseases included in the IIP
- (c) knowledge of the number of doses required for complete immunization for each of these diseases
- (d) sources through which respondents had received information
- (e) whether or not respondents desired further information on any aspect of immunization.

2. Attitudes Towards Immunization

This included investigations of

- (a) factors influencing decisions as to whether or not a child should be immunized
- (b) the person/people in a family who decided whether or not a child was to be immunized
- (c) motivation to have a child immunized despite various hypothetical obstacles.

3. Facilities For Immunization

Questions in this context were aimed at identifying

- (a) whether or not any problems had been encountered during immunization
- (b) whether or not follow-up action had been taken by the anganwadi worker after a child had been immunized.

While developing the interview schedule, all the questions that were to be asked of the mothers were first listed. These questions were field-tested with a group of 30-40 mothers. Following the pilot-testing of the questions, close-ended categories were drawn up for the responses to each of the questions in the schedule. As the analysis of the data was eventually to be done via a computer, code boxes were allotted to each of the items on the interview schedule. Finally, all the questions on the schedule were translated into Hindi. This was done in order to maintain uniformity in terms of semantics of questions asked by each of the investigators.

Data Collection

Collection of data for this study was done by a team of 11 Master's (Final year) students of Child Development from the Lady Irwin College, New Delhi¹.

Data collection entailed conducting interviews with each of the mothers in the sample at their respective homes. During their field visits, the investigators were accompanied by the local

¹ Investigators included Kavita Chimnani, Poonam Grover, Sandhya Gupta, Sunita Gupta, Kanika Naug, Ritu Sabharwal, Sunit Sethi, Ila Shankar, Sujata Subrahmanyam, Arvinder Talwar and Lovy Talwar.

anganwadi workers. Involvement of the anganwadi workers in the data collection was seen as necessary for two major reasons. Firstly, these workers were very familiar with the geography of the areas in which they worked and could, therefore, help the investigators to easily locate the houses of the mothers selected for the study. Secondly, and more importantly, all the mothers in Trilokpuri and Khanjawala were familiar with the anganwadi workers, as the latter had conducted house-to-house surveys during the Intensive Immunization Programme a few months earlier. In terms of rapport building prior to the interviews, therefore, it was felt that the presence of the anganwadi workers would be a tremendous asset.

Statistical Analysis

The techniques used for analysing the data obtained during this study included the following:

1. Responses given by mothers in Group 1 were contrasted with those of women in Groups 2/3/4. This was done in order to ascertain the ways in which mothers who had had their children immunized during the IIP (Group 1) were different from those whose children had been immunized even before the IIP (Group 2); those whose children were only partially immunized after the IIP (Group 3); and those whose children had received no immunization doses even after the IIP (Group 4).
2. In the case of questions relating to information on immunization, the number of *correct responses* given by each group of mothers was compared with the *total number of possible responses* given by the same group. The results of these comparisons made it possible to ascertain whether or not each group of mothers had 'adequate' information on the different variables relating to facts about immunization.

A somewhat similar technique was applied to the questions relating to the mothers' motivation to have their children immunized. The number of 'correct' responses was compared with the total number of possible responses for each group of women, to assess whether levels of motivation were high or low within that particular group.
3. In several cases, percentages were calculated for the relative frequencies of the different responses that were received for a particular question. These percentages were presented in the form of bar graphs and pie charts.
4. Finally, comparisons were made between the two areas—Trilokpuri and Khanjawala—on almost all variables, to assess the kinds of differences that existed between them.

For all statistical analyses that involved comparisons of proportions, *z* scores were calculated in order to determine whether or not the differences obtained were statistically significant.

Results

The results of this study are presented in terms of the three broad areas that were investigated: information about immunization, attitudes towards immunization and facilities for immunization. Responses to each of the questions contained within these three broad areas are discussed separately.

Information About Immunization

1. Why must children be immunized?

- (a) While comparing the responses given by Group 1 with those given by the other three groups, it was found that women in Group 1 (in Trilokpuri) were significantly more aware than those in only one other group, Group 4, with regard to knowledge that immunization prevents sickness ($p < .002$)¹. No significant differences were found on this variable between Group 1 and Groups 2 and 3 in Trilokpuri, and between Group 1 and Groups 2, 3 and 4 in Khanjawala (Table 1).
- (b) For all four groups (in both Trilokpuri and Khanjawala) significant differences were found between the number of correct responses and the total number of possible responses for this variable, indicating a fairly low level of awareness among all the respondents in this context (Table 2). However, the differences were less marked for Groups 1 and 2 in Khanjawala ($p < .05$) and for Group 3 in both Trilokpuri and Khanjawala ($p < .01$).

2. What are some of the diseases that can be prevented through immunization?

Of the six diseases included in the EPI—poliomyelitis, tuberculosis, diphtheria, pertussis, tetanus and typhoid—only some were mentioned by each of the respondents. The number of diseases that were mentioned by each individual were added, to give that individual's score on this question. The scores received by *all* the members within a particular group on this question were then added, to indicate the total number of correct responses given by the women in that group.

- (a) Comparisons between Group 1 and the other three groups (Table 1) revealed that only Group 4 (in both Trilokpuri and Khanjawala) was significantly less aware than Group 1 with regard to the six diseases included in the EPI ($p < .002$).

¹ While computing a z score, if a significance level of $p < .05$ is obtained, this indicates that we can be 95% confident that we have made a valid hypothesis (the hypothesis being that differences do, in fact, exist between the two proportions being compared). Similarly, a significance level of $p < .01$ indicates that we can be 99% confident that the hypothesis is true, while a value of $p < .002$ indicates a confidence level of 99.8%.

Table 1
Information About Immunization: Comparison Between Group 1 and Groups 2/3/4

Variables	Group	No. of responses/total possible responses		z values	
		Trilokpuri	Khanjawala	Trilokpuri	Khanjawala
Awareness that immunization prevents sickness	1	51/ 62	54/ 60		
	2	49/ 65	65 70	1-2 .95	-.58
	3	49/ 57	70/ 77	1-3 -.55	-.18
	4	18/ 35	48/ 62	1-4 3.22***	-1.88
Awareness of the 6 diseases in the EPI	1	113/372	129/ 360		
	2	119/390	143/ 420	1-2 -.04	.52
	3	114/342	155/ 462	1-3 .85	.68
	4	33/210	85/ 372	1-4 3.93***	3.86***
Awareness of the no. of doses needed for BCG, Polio & DPT	1	113/186	109/ 180		
	2	117/195	138/ 210	1-2 .15	-1.05
	3	82/171	116/ 231	1-3 2.43*	2.09*
	4	17/105	49/ 195	1-4 7.34***	6.94***
Awareness of the 3 major symptoms of the 5 IIP diseases	1	157/930	226/ 900		
	2	173/975	240/1050	1-2 -.49	1.16
	3	124/855	276/1155	1-3 1.38	.63
	4	45/525	172/ 930	1-4 4.41***	3.43***
Belief that death is the worst possible outcome of non-immunization	1	12/ 62	25/ 60		
	2	24/ 65	27/ 70	1-2 -2.19*	.36
	3	10/ 57	35/ 77	1-3 .25	.44
	4	7/ 35	22/ 62	1-4 -.07	.70
Belief that a child can die if not immunized	1	33/ 50	28/ 35		
	2	38/ 41	40/ 43	1-2 -3.06**	1.71
	3	31/ 47	39/ 42	1-3 .004	1.67
	4	17/ 28	33/ 40	1-4 .47	.28
Desire for further information about immunization	1	44/ 62	40/ 60		
	2	46/ 65	47/ 70	1-2 .02	.06
	3	26/ 57	57/ 77	1-3 2.81**	.94
	4	15/ 35	43/ 62	1-4 2.72**	.31

* $p < .05$

** $p < .01$

*** $p < .002$

Table 2

**Levels of Information about Immunization: Comparisons Between the Number of
Correct Responses and Total Possible Responses**

Variables	Group	Correct responses/total possible responses		z values	
		Trilokpuri	Khanjawala	Trilokpuri	Khanjawala
Awareness that immunization prevents sickness	1	51/ 62	54/ 60	- 3.47***	- 2.51*
	2	49/ 65	65/ 70	- 4.27***	- 2.27*
	3	49/ 57	70/ 77	- 2.93**	- 2.70**
	4	18/ 35	48/ 62	- 4.74***	- 3.97***
Awareness of the 6 diseases in the EPI	1	113/372	129/ 360	-19.93***	-18.44***
	2	119/390	143/ 420	-20.37***	-20.32***
	3	114/342	155/ 462	-18.49***	-21.44***
	4	33/210	85/ 372	-17.49***	-21.61***
Awareness of the no. of doses needed for BCG, Polio & DPT	1	113/186	109/ 180	- 9.53***	- 9.40***
	2	117/195	138/ 210	- 9.87***	- 9.32***
	3	82/171	116/ 231	-10.97***	-12.37***
	4	17/105	49/ 195	-12.31***	-15.28***
Awareness of the 3 major symptoms of the 5 IIP diseases	1	157/930	226/ 900	-36.37***	-32.82***
	2	173/975	240/1050	-36.90***	-36.31***
	3	124/855	276/1155	-35.73***	-37.67***
	4	45/525	172/ 930	-29.74***	-35.77***
Belief that death is the worst possible outcome of non-immunization	1	12/ 62	25/ 60	- 9.15***	- 7.03***
	2	24/ 65	27/ 70	- 7.74***	- 7.88***
	3	10/ 57	35/ 77	- 8.94***	- 7.56***
	4	7/ 35	22/ 62	- 6.83***	- 7.68***
Belief that a child can die if not immunized	1	33/ 50	28/ 35	- 4.53***	- 2.78**
	2	38/ 41	40/ 43	- 1.76	- 1.76
	3	31/ 47	39/ 42	- 4.39***	- 1.76
	4	17/ 28	33/ 40	- 3.69***	- 2.76**

* $p < .05$ ** $p < 0.1$ *** $p < .002$

- (b) Differences between the number of correct responses and the total possible responses were highly significant ($p < .002$) for all four groups in both Trilokpuri and Khanjawala, indicating a low level of awareness among all respondents about the diseases of the EPI (Table 2).
- (c) As indicated in Figure 1, of all the six EPI diseases, awareness about poliomyelitis was the highest (among all groups in both Trilokpuri and Khanjawala). Awareness of the other five EPI diseases was in the following order: pertussis, tuberculosis, diphtheria, tetanus and typhoid.

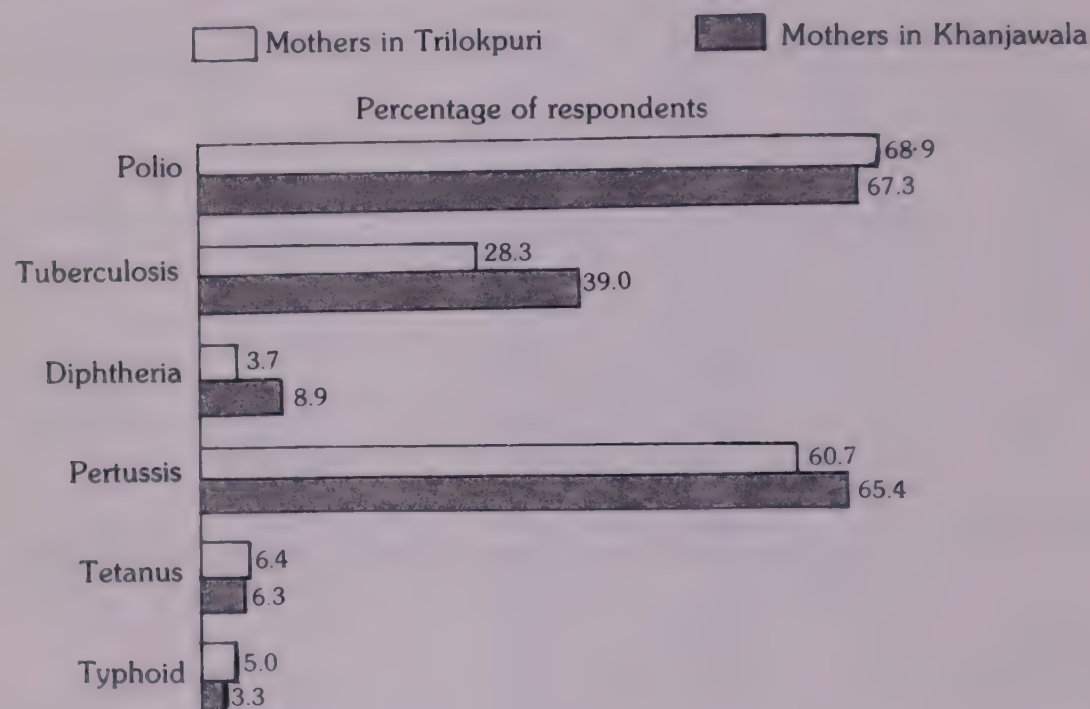


Figure 1
Awareness of the Diseases Included in the EPI

3. For complete immunization, how many doses are required of the BCG, DPT and Polio vaccines?

The analysis of this question followed a similar pattern to that of the previous question. The maximum score that could be obtained by an individual on this question was 3, as the respondents had been asked about the correct number of doses for 3 vaccines—BCG, DPT and Polio. The scores obtained by *all* the mothers in a particular group were added to give the total number of correct responses within that group on this question.

- (a) Inter-group comparisons revealed that as compared to Group 1, Group 4 was much less aware of the number of doses required for complete immunization ($p < .002$). Group 3 was also less aware than Group 1 in this context; however, the differences in this case were significant only at the .05 level. There were no significant differences between Groups 1 and 2 on this variable. All these results (relating to comparisons between groups) were comparable in the two areas, Trilokpuri and Khanjawala (Table 1).

- (b) As indicated in Table 2, the differences between the number of correct responses and the total number of possible responses were highly significant for all groups in both Trilokpuri and Khanjawala ($p < .002$). Therefore, awareness of the number of doses required for complete immunization was low in each of the groups.
- (c) While comparing knowledge of the number of doses required for each of the three vaccines, mothers in both Trilokpuri and Khanjawala were found to be most aware about the number of doses required for the polio vaccines (Figure 2). In comparison, awareness of the correct number of doses needed for the BCG and DPT vaccines was slightly lower.

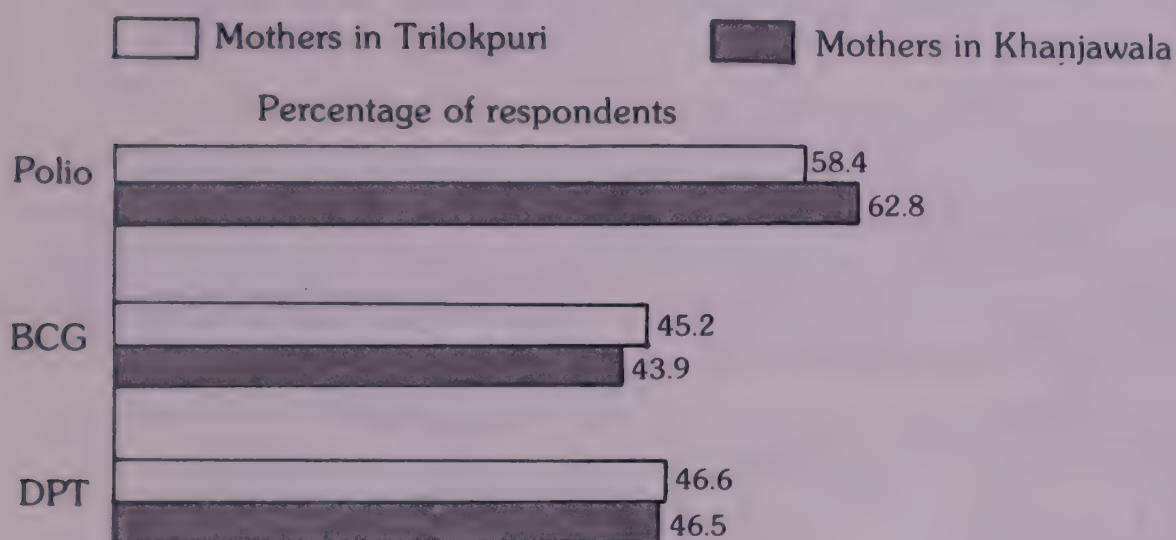


Figure 2
Awareness of the Number of Doses Required for Immunization

4. What are the major symptoms of each of these diseases?²

Techniques used in analysing this question, again, were comparable to those used in analysing the two preceding questions. Each respondent received a score out of 3 for each of the diseases, depending on how many of the 3 major symptoms of the disease she mentioned³. The scores received on all five of the diseases were then added for each individual. Finally, the scores obtained by all the members in the group on this question were added, to give the total number of correct responses with regard to the symptoms of the diseases within that group.

² This question covered only the five diseases that were included in the Delhi IIP—the symptoms of typhoid therefore were not asked.

³ These symptoms were identified with the help of the medical personnel involved with the Delhi Intensive Immunization Programme.

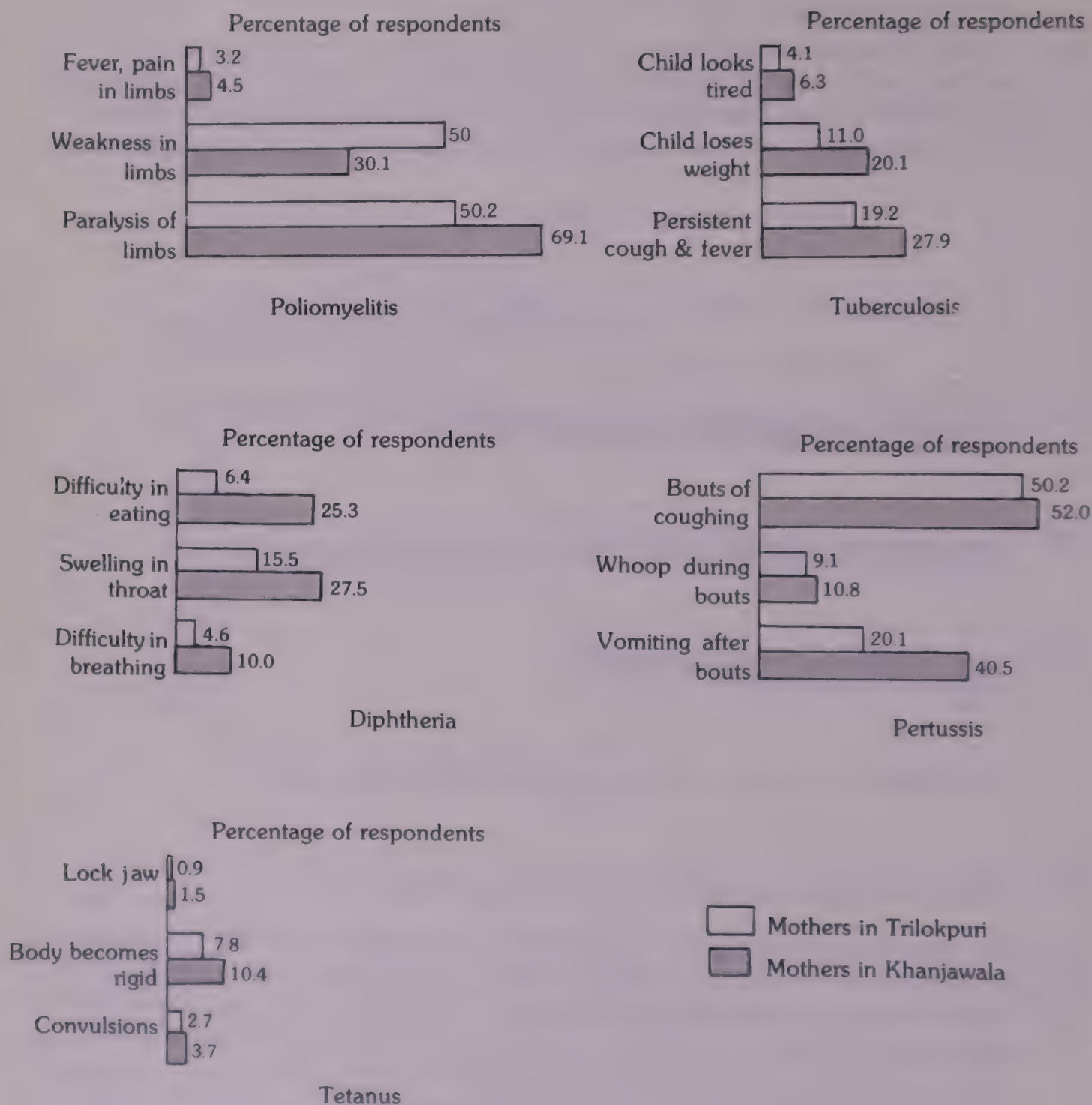


Figure 3
Awareness of Symptoms of Diseases included in the Delhi IIP

- (a) Comparisons between Group 1 and the other three groups (Table 1) indicated that in both Trilokpuri and Khanjawala only Group 4 was significantly less aware than Group 1 about the symptoms of the IIP diseases ($p < .002$).
 - (b) While comparing the number of correct responses and the total number of possible responses for a group, differences were highly significant for all groups in both Trilokpuri and Khanjawala ($p < .002$). All the respondents, therefore, had low levels of awareness of the symptoms of the five IIP diseases (Table 2).
 - (c) In contrasting the awareness of the symptoms of each of the five diseases, it was found that the mothers were most highly aware of the symptoms of poliomyelitis. This was followed by awareness of the clinical signs of pertussis. Knowledge of the symptoms of tuberculosis and diphtheria were slightly lower, while very few mothers knew the symptoms of tetanus (Figure 3).
5. What is the worst possible outcome of not having a child immunized?
- (a) When responses of Group 1 were compared with those of the other 3 groups, it was found that in Trilokpuri, the correct response, "Death", had been mentioned more frequently by women in Group 2 as compared to those in Group 1 ($p < .05$). The differences between Group 1 and Groups 3 and 4 in Trilokpuri, and between Group 1 and Groups 2, 3 and 4 in Khanjawala were not significant on this variable (Table 1).
 - (b) While comparing the number of correct responses with the total number of responses on this variable (Table 2), highly significant differences were found for all groups in both Trilokpuri and Khanjawala ($p < .002$). Very few of the respondents, therefore, had said that death is the worst possible outcome of not having a child immunized.
6. (If death is not mentioned)
- Can a child die as a result of non-immunization?
- (a) Inter-group comparisons revealed that in Trilokpuri, Group 2 had a greater proportion of correct responses as compared to Group 1 ($p < .01$). Differences between Group 1 and Groups 3 and 4 in Trilokpuri as also between Group 1 and Groups 2, 3 and 4 in Khanjawala, were not significant (Table 1).
 - (b) While comparing the number of correct responses and total number of responses given by each group, differences were non-significant in the case of Group 2 (in both Trilokpuri and Khanjawala) and in Group 3 in Khanjawala. Groups 1, 3 and 4 in Trilokpuri, as well as Groups 1 and 4 in Khanjawala had insufficient information on this variable (Table 2).

Comparisons between Trilokpuri and Khanjawala:

The first six questions on the interview schedule (those which have just been discussed) related to information about various aspects of immunization. While comparing awareness levels between the two areas, the total number of correct responses given by all four groups on each of these six questions were calculated for each area. The

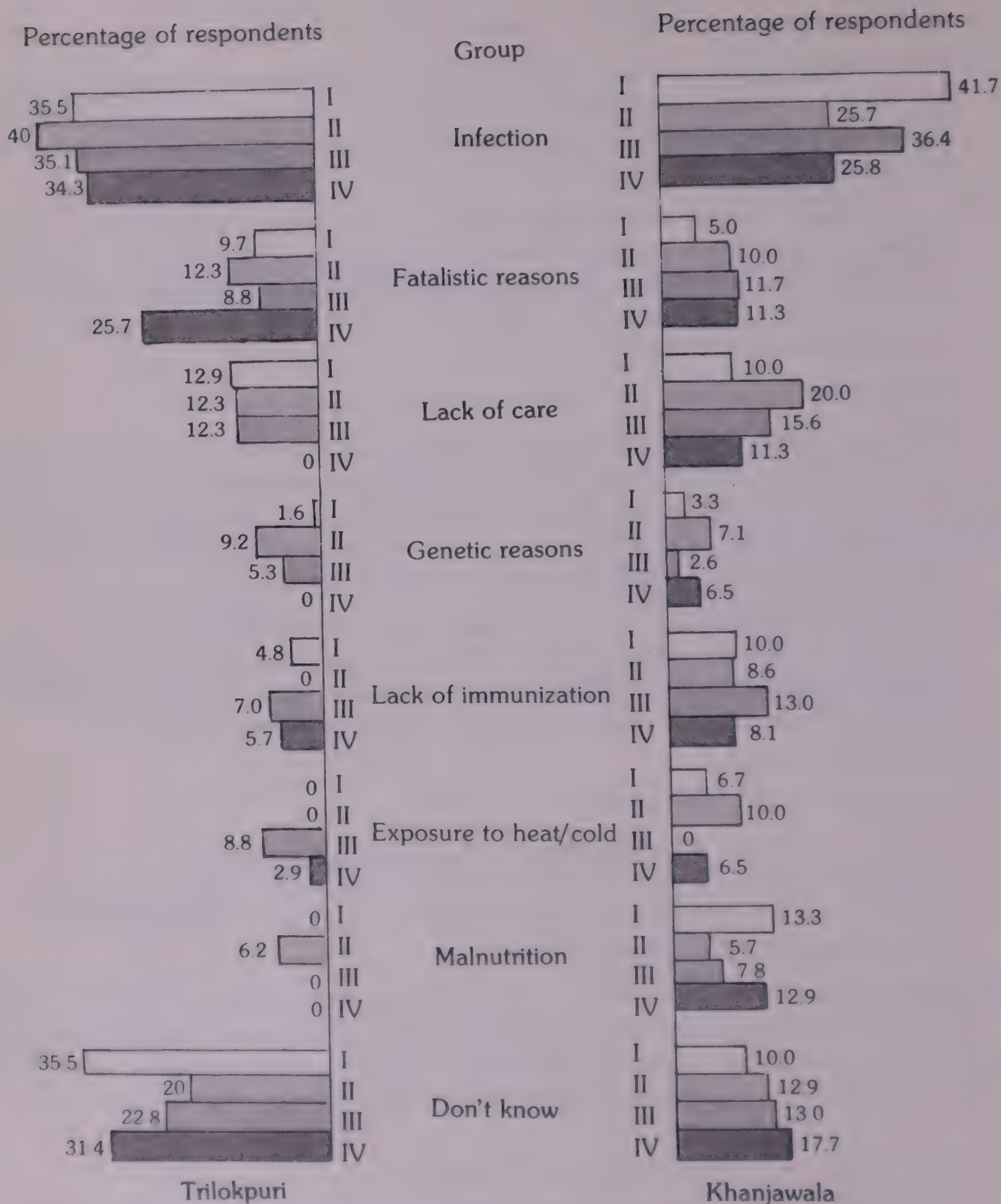


Figure 4
Responses to the Question "Why do Children get these Diseases?"

proportions of correct responses obtained by the women in Trilokpuri on these variables, were then compared with proportions of correct responses obtained by mothers in Khanjawala. The results of this comparison revealed that there was a highly significant difference between the two areas in terms of general information about immunization ($p < .002$). This difference was in favour of the Khanjawala mothers. Respondents in Khanjawala, therefore, were much better informed about the various aspects of immunization as compared to the women in Trilokpuri (Table 5).

7. Why do children get these diseases?

As indicated in Figure 4, most of the mothers in all groups said that children get these diseases due to infections. Next in order of frequency was the response where the women had said that they were unsure as to why children get these diseases. (This response was more frequent in Trilokpuri than in Khanjawala). The other reasons given by the mothers included fatalistic ones, lack of care by parents, lack of immunization, exposure to heat/cold, genetic reasons and malnutrition.

8. Would you have liked more information about immunization?

- (a) While comparing Group 1 with the other 3 groups, it was found that in Trilokpuri, mothers in Groups 3 and 4 had a much lower desire for further information as compared to those in Group 1 ($p < .01$). Differences between Group 1 and Group 2 in Trilokpuri, and Group 1 and Groups 2, 3 and 4 in Khanjawala were not significant (Table I).
- (b) As indicated in Figure 5, Groups 1 and 2 in Trilokpuri had expressed the desire for further information about immunization more frequently than had the other 2 groups. In Khanjawala, all four groups were almost equally keen to receive further information.

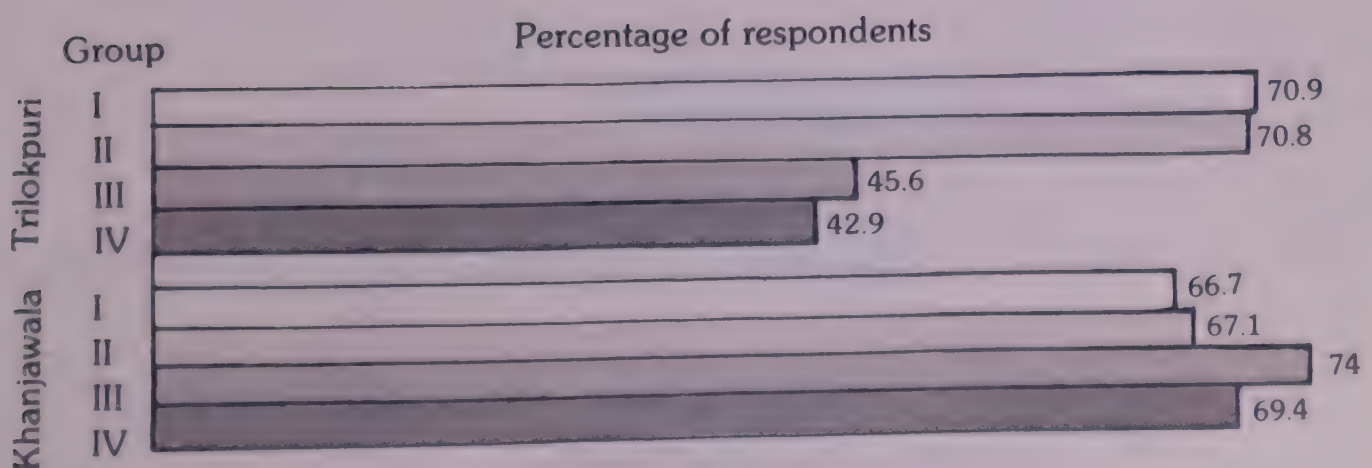


Figure 5
Respondents Desiring Further Information about Immunization

- (c) Comparisons between the two areas (Table 5) revealed that the number of respondents desiring further information was significantly higher in Khanjawala as compared to Trilokpuri ($p < .05$).

9. (If yes)

What would you have liked to know more about?⁴

In response to this question, most of the mothers said that they wanted more information about the diseases that can be prevented with immunization (Figure 6). Following this response, in order, were preferences for information about all aspects of immunization, data about the symptoms of various diseases and information about the number of doses required for complete immunization.

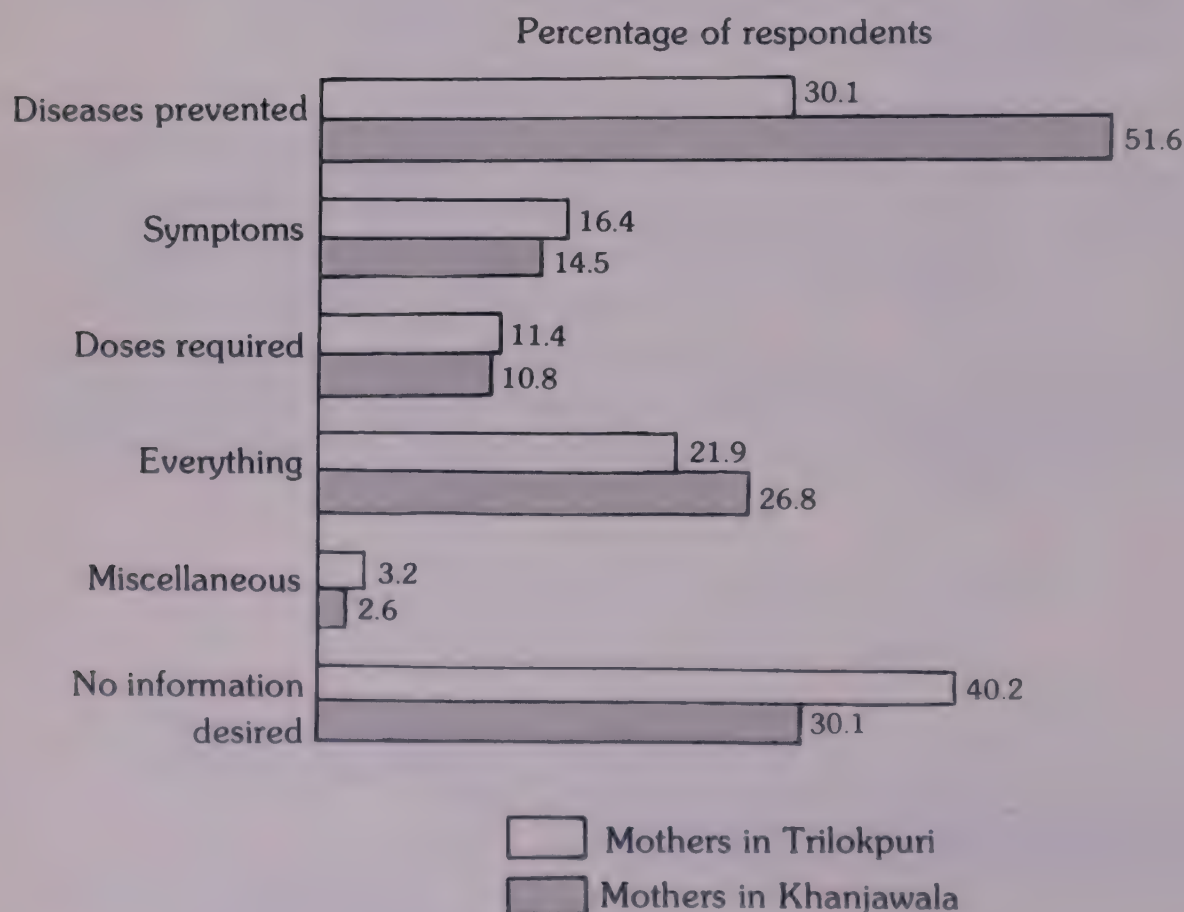


Figure 6
Responses to the Question
"What Would You Like to Know More About?"

⁴ As the pattern of responses to this question was very similar for all four groups, data on this variable have been presented collectively for all the groups.

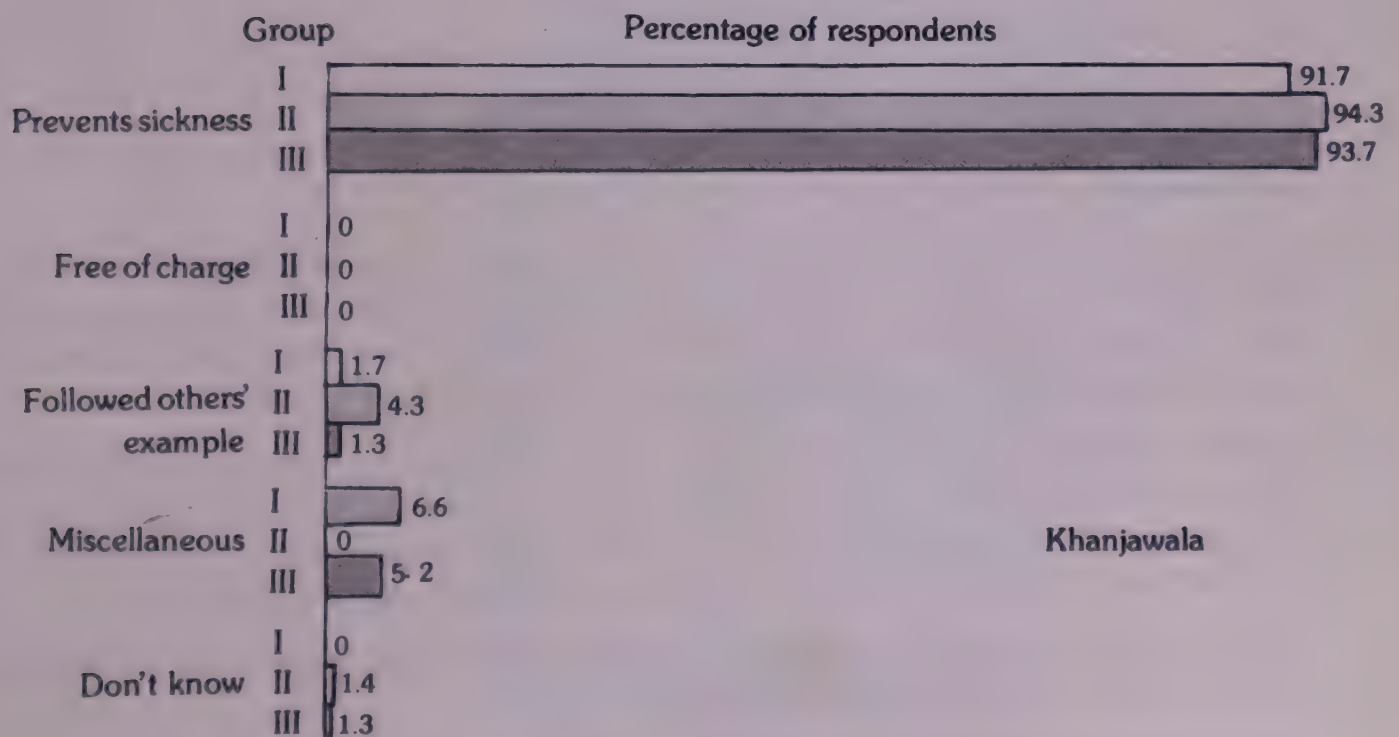
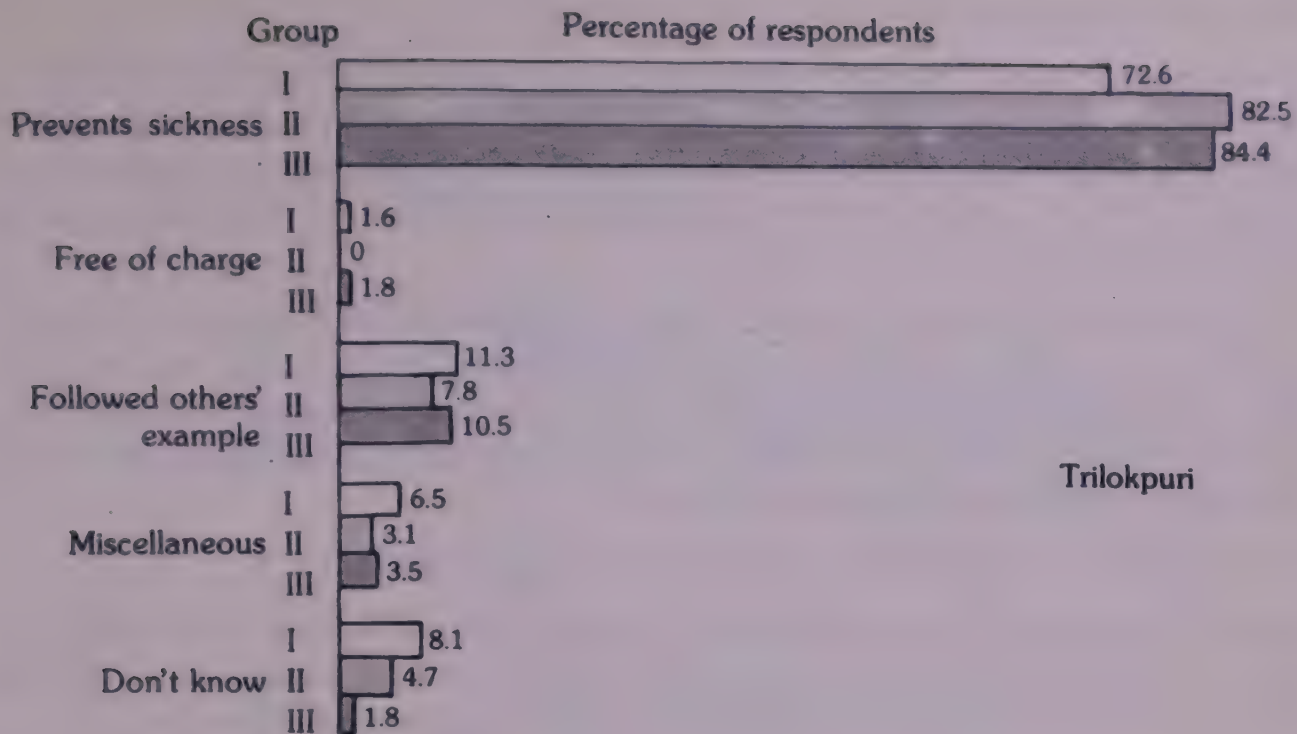


Figure 7

Respondents' Reasons for Having Their Children Immunized

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Attitudes Towards Immunization

1. What made you decide to get your child immunized?

As indicated in Figure 7, the major reason given by mothers for having had their children immunized was that they believed that immunization prevents sickness. This reason, however, was given by a greater number of respondents in Khanjawala as compared to those in Trilokpuri. Among the three groups, this reason was mentioned most often by Group 2 followed by Groups 3 and 1:

For the other reasons, there were slight differences between respondents in Trilokpuri and Khanjawala. While a greater number of mothers in Trilokpuri said that they had followed the example of others, this reason was given by very few mothers in Khanjawala. Very few mothers (only in Trilokpuri) said that they had their children immunized because the facilities had been free of charge.

2. In your family, who decided that your child must be immunized?

In both Trilokpuri and Khanjawala, most of the mothers said that they themselves had decided to have their children immunized (Figure 8). The other decision makers were the women's mothers-in-law, their husbands, their fathers-in-law and others.

With regard to this variable, some differences were observed between Trilokpuri and Khanjawala. In Trilokpuri, the women's husbands were frequently the major decision makers, and there were very few cases where the mothers-in-law were involved in decisions about immunizing the child. In Khanjawala, on the other hand, husbands and mothers-in-law seemed to be equally important as decision makers in this regard.

3. If some elder in the family had disapproved, would you have still gone ahead with the immunization?

For each group of mothers, comparisons on this variable were made between the number of affirmative responses and the total number of possible responses. This was done in order to assess the mothers' levels of motivation, in terms of whether or not they would have had their children immunized despite obstacles of various kinds.

Results indicated significant differences ($p < .002$) between the number of affirmative responses and the total number of possible responses for all groups of mothers in both Trilokpuri and Khanjawala (Table 3). Very few mothers, then, had said that they would have had their children immunized even with the disapproval of elders.

4. If some visitors had turned up on the day that immunization facilities were available, would you still have taken your child?

While comparing the number of affirmative responses to the total number of responses, significant differences were found for all three groups in both Trilokpuri and Khanjawala on this variable (Table 3). However, significance levels were lower in the case of Group 2 in both the areas and Group 3 in Khanjawala ($p < .05$); higher values were obtained for Group 1 in Trilokpuri and Khanjawala ($p < .01$), and for Group 3 in Trilokpuri ($p < .002$).

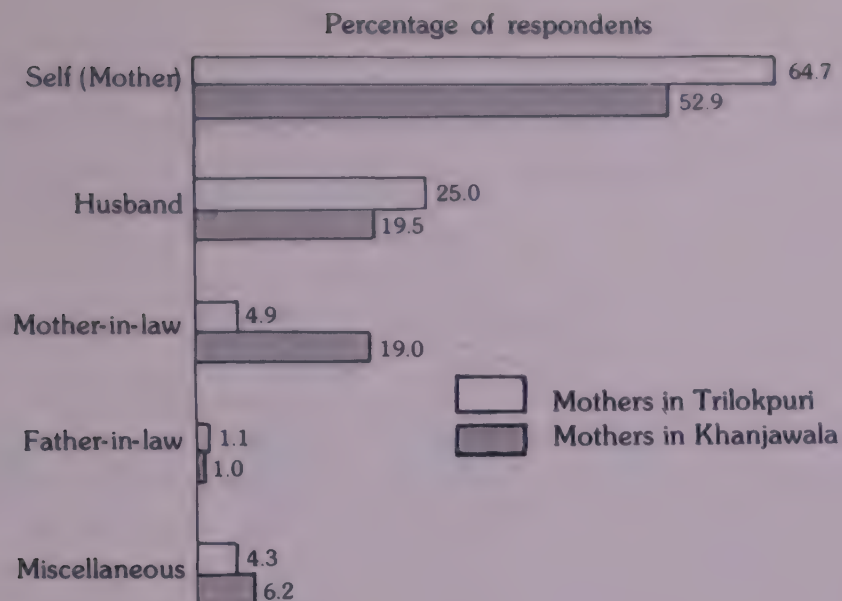


Figure 8
 Responses to the Question
 "Who Decided that your Child should be Immunized?"

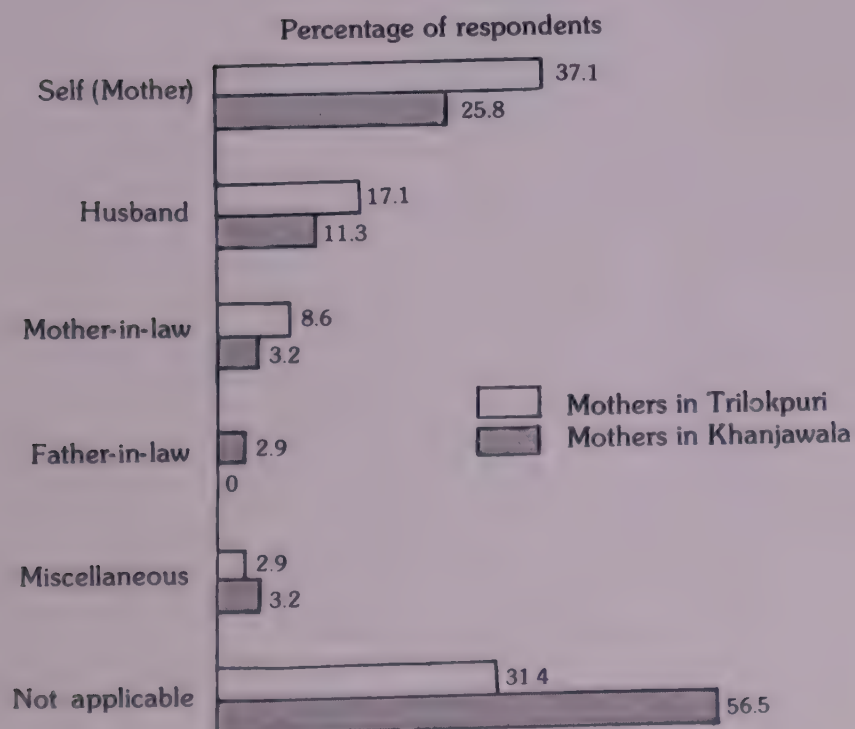


Figure 9
 Responses to the Question
 "Who Decided that your Child should not be Immunized?"

Table 3

**Mothers' Motivation to Have Their Children Immunized:
Comparisons Between the Number of Affirmative Responses and Total Possible Responses**

Variables	Group	No. of affirmative responses/total responses		z values	
		Trilokpuri	Khanjawala	Trilokpuri	Khanjawala
Would have had child immunized even with elders' disapproval	1	49/62	48/60	-3.81***	-3.65***
	2	54/65	59/70	-3.46***	-3.45***
	3	38/57	63/77	-4.77***	-3.93***
Would have had child immunized even if visitors dropped in	1	55/62	53/60	-2.72**	-2.73**
	2	59/65	66/70	-2.50*	-2.01*
	3	44/57	71/77	-3.83***	-2.49*
Would have had child immunized even if facilities were not available in the locality	1	52/62	50/60	-3.29***	-3.30***
	2	57/65	67/70	-2.91**	-1.75
	3	45/57	56/77	-3.66***	-4.93***

*p < .05

**p < .01

***p < .002

5. Had immunization facilities not been available in your locality, would you have gone elsewhere to get your child immunized?

Differences between the number of affirmative responses and the total number of responses were highly significant in the case of Group 1 and Group 3 in both Trilokpuri and Khanjawala ($p < .002$). Group 2 in Trilokpuri also showed a difference, though at a lower level of significance ($p < .01$). The results for Group 2 in Khanjawala on this variable were non-significant (Table 3).

Comparisons between Trilokpuri and Khanjawala:

Combining the responses of all the mothers on the 3 preceding questions (relating to motivation towards immunization), comparisons were made between the two areas, Trilokpuri and Khanjawala. Results showed that the difference between the two areas in this context was highly significant ($p < .002$). The difference was in favour of the Khanjawala mothers, indicating that on the basis of these hypothetical questions, women in Khanjawala were more highly motivated to have their children immunized than those in Trilokpuri (Table 5).

6. (Only for Group 3)

What prevented you from having your child totally immunized?

In Trilokpuri, the main reason given for not having had the child totally immunized was that the child had still been too young to have received all the required doses. In Khanjawala, on the other hand, the reason most frequently cited was a lack of awareness of the IIP camps. The other reasons mentioned by the respondents (in both areas) were that the child had been sick or that the families had been out of town during the IIP rounds, and that the mothers had no faith in immunization (Figure 10).

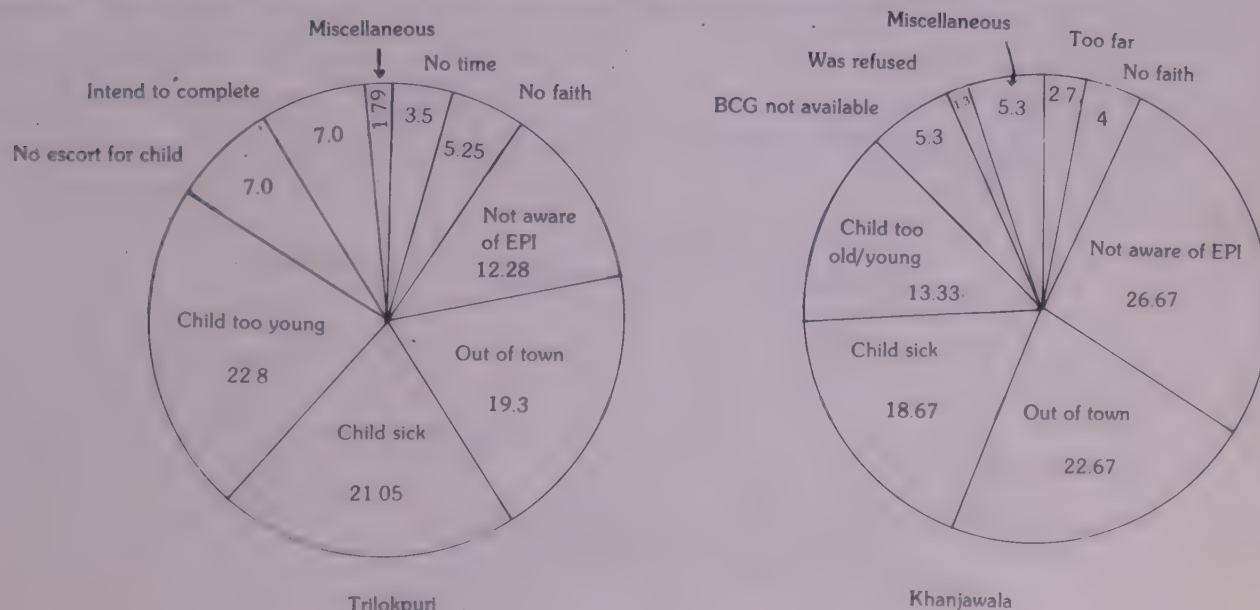


Figure 10

Respondents' Reasons for not having had their Children Totally Immunized (Group 3)

Some reasons were given only by respondents in Khanjawala. These included the non-availability of the BCG vaccine, the fact that the camps had been held too far from their homes, and that they had been refused immunization when they had gone to the camps. Reasons mentioned only by respondents in Trilokpuri were that there had been no escort to take the child for immunization, that they intended to have the child totally immunized in the next camp, and that they had had no time to take the child for immunization (Figure 10).

7. (Only for Group 4)

Why did you not have your child immunized?

The major reasons given by the mothers for not having their children immunized were somewhat different in Trilokpuri and Khanjawala. While in Khanjawala the main reason given by the mothers was a lack of awareness of the IIP camps, in Trilokpuri the reason most frequently mentioned was that the women had been out of town at the time of the Delhi IIP (Figure 11). The other reasons mentioned by the women were that they had had no time; the child had been sick at the time of the IIP camps; that they did not have faith in immunization; that they were scared of immunization; and that their child was past the age for immunization (Figure 11).

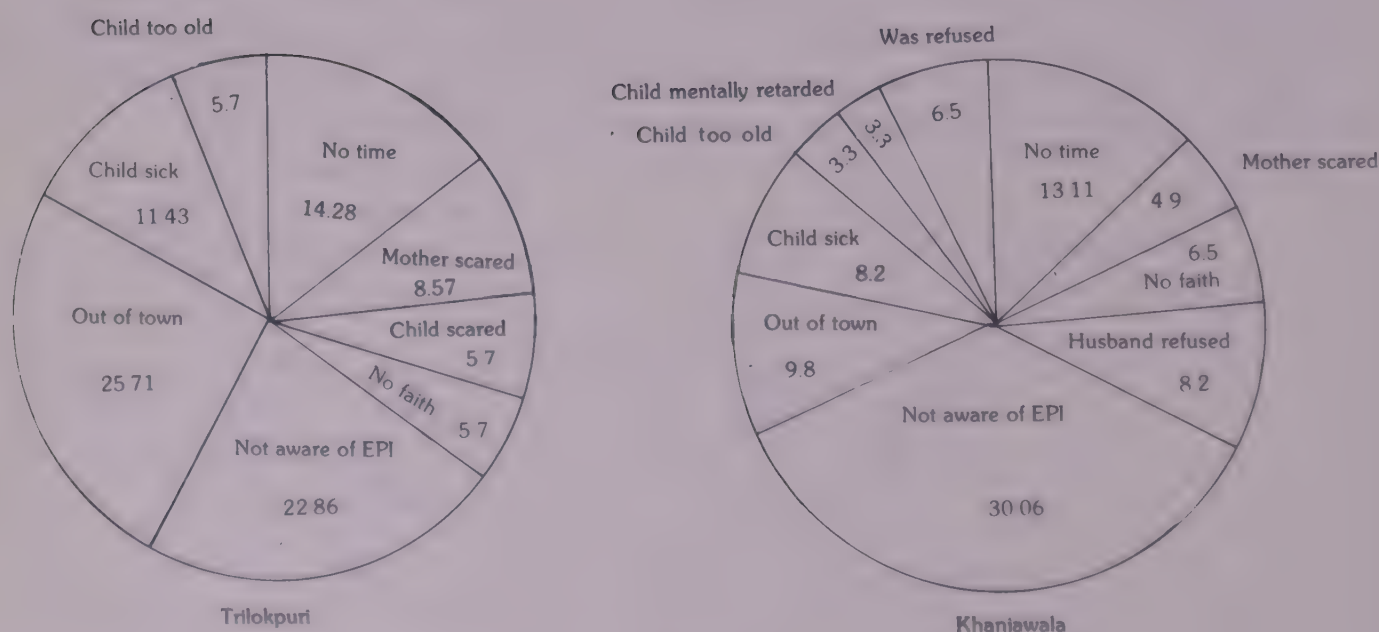


Figure 11
Respondents' Reasons for not having had their Children Immunized (Group 4)

8. (Only for Group 4).

In your family, who decided that the child should not be immunized?

According to the results, several mothers said that no one had taken the decision that the child must not be immunized; circumstantial factors had prevented them from having their children immunized. As compared to Trilokpuri, a greater number of mothers in Khanjawala had given this response (Table 5).

In cases where a conscious decision had been taken in this context, the decision makers had generally been the mothers themselves. In a few cases, the women's husbands or mothers-in-law had been responsible for this decision (Figure 9).

Facilities For Immunization

1. From where did you acquire your information about immunization?

- (a) During the IIP, the anganwadi workers were supposed to have been the major sources for disseminating information about immunization. Group comparisons were, therefore, made on this variable, in order to check whether all four groups of mothers had received comparable inputs from the anganwadi workers.

Results indicated that in Khanjawala, as compared to Group 1, Group 2 had received information less frequently from the anganwadi workers ($p < .002$). Differences between Group 1 and Group 4 in Khanjawala were also significant, though at a lower level ($p < .01$). No significant differences were found between Group 1 and Group 3 in Khanjawala, or between Group 1 and Groups 2, 3 and 4 in Trilokpuri on this variable (Table 4).

- (b) In comparing the frequencies with which different sources of information had been mentioned by the respondents, it was found that most of the respondents had received information from the anganwadi workers (Figure 12). The other sources of information were local hospitals and dispensaries, neighbours and relatives, miscellaneous sources and mass media. The order was almost the same in Trilokpuri and Khanjawala.

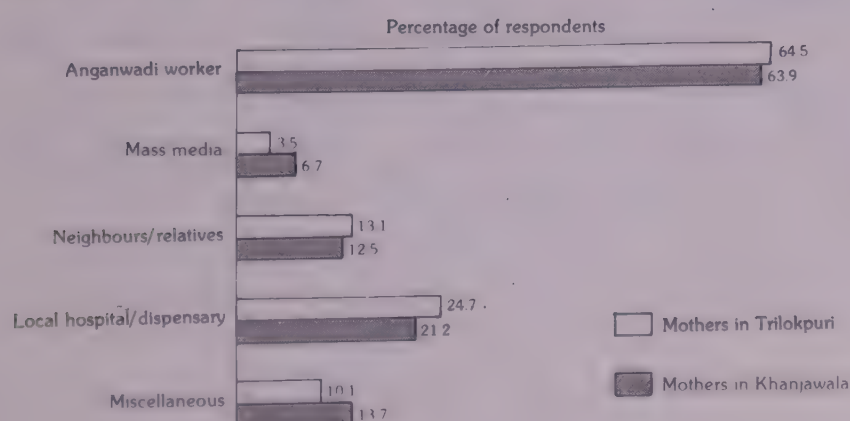


Figure 12
Sources of Information about Immunization

Table 4
Facilities for Immunization: Comparisons Between Group 1 and Groups 2/3/4

Variables	Group	No. of responses/total possible responses		z values	
		Trilokpuri	Khanjawala	Trilokpuri	Khanjawala
Information about immunization received from AWW ¹	1	37/59	48/60		
	2	34/62	30/68	1-2 .88	4.15***
	3	42/55	55/74	1-3 -1.58	.77
	4	14/21	30/53	1-4 - .32	2.68**
Awareness of IIP camps	1	55/62	58/60		
	2	41/65	56/70		
	3	45/57	67/77	1-3 -1.45	1.98*
	4	13/35	44/62	1-4 5.33***	3.83***
Information about IIP camps received from AWW	1	52/56	52/58		
	2	40/41	51/56		
	3	43/45	55/67	1-3 - .57	1.2
	4	10/13	40/44	1-4 1.71	.21
No problems faced by mother during immunization	1	59/62	58/60		
	2	63/64	65/67	1-2 -1.05	- .11
	3	50/57	73/77	1-3 1.46	.53
No problems faced by child after immunization	1	44/62	40/60		
	2	38/65	46/67	1-2 1.47	- .23
	3	39/57	59/77	1-3 .30	-1.29
Follow-up visits made by AWW ¹ after immunization	1	34/54	30/56		
	3	22/54	41/67	1-3 2.31*	- .85
No action taken (if child was sick) following immunization	1	3/24	4/21		
	3	9/22	11/27	1-3 -2.19*	-1.61

¹ Anganwadi Worker

* $p < .05$
 ** $p < .01$
 *** $p < .002$

- (c) Comparisons between Trilokpuri and Khanjawala on this variable showed no significant differences, indicating that respondents in both areas had received almost equal inputs from the anganwadi workers in their respective areas (Table 5).
2. Did you know about the immunization camps that were recently held in your locality?
- (a) In the case of this question, statistical comparisons between groups did not include Group 2 (as this group consisted of mothers whose children had been immunized before the IIP). As indicated in Table 4, comparisons between Group 1 and Groups 3 and 4 showed that in both Trilokpuri and Khanjawala, Group 4 was significantly less aware than Group 1 of the immunization camps that had been held during the IIP ($p < .002$). Group 3 was found to have been less aware of the IIP camps than Group 1 only in Khanjawala ($p < .05$).
- (b) In both Trilokpuri and Khanjawala, women in Group 1 were the best informed of the camps that had been held during the IIP, followed by mothers in Groups 3, 2 and 4 (Figure 13).

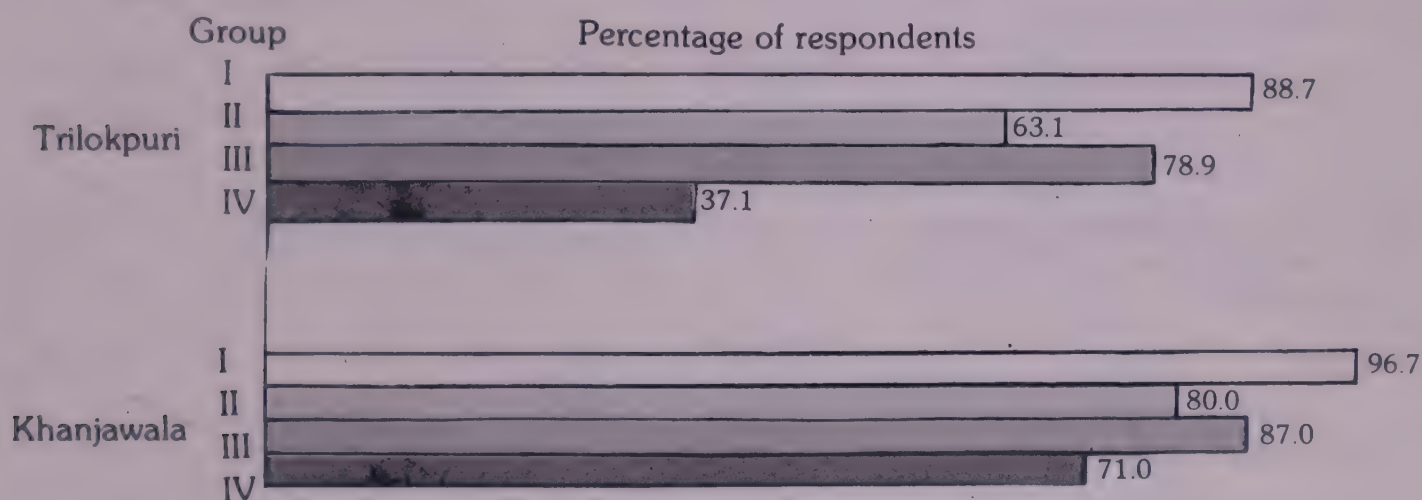


Figure 13
Awareness of the Camps held during the Delhi IIP

- (c) On the whole, respondents in Khanjawala had significantly higher levels of awareness of the IIP camps, as compared to respondents in Trilokpuri ($p < .002$) (Table 5).

3. Where did you hear of the camps from?

- (a) As in the case of disseminating information about immunization, in this case too, it was the anganwadi workers who had primarily been responsible for informing the mothers about the IIP camps. Inter-group comparisons were made, therefore, to assess the relative inputs given by the anganwadi workers to Group 1, as compared to Groups 3 and 4. (Statistical comparisons for Group 2, again, were not relevant in the case of this question).

Results indicated no significant differences between Group 1 and Groups 3 and 4 on this variable in both Trilokpuri and Khanjawala (Table 4). With regard to notification of the camps by the anganwadi workers, therefore, all the groups had received comparable inputs.

Table 5
Comparisons of Responses in Trilokpuri with Those in Khanjawala

Variables	Group	No. of responses/total possible responses		z values
		Trilokpuri	Khanjawala	
Total no. of correct responses on all questions on immunization	1+2+3+4	1543/5913	2321/7623	5.56*** (K) ¹
Information about immunization received from anganwadi workers	1+2+3+4	127/ 197	163/ 255	.12
Desire for further information	1+2+3+4	133/ 219	187/ 269	2.03* (K)
Mothers' motivation to have their children immunized	1+3	231/ 327	338/ 402	4.36*** (K)
Responses "Not applicable" to question "Who decided that your child should not be immunized?"	4	11/ 35	35/ 62	2.37* (K)
Awareness of the IIP camps	1+2+3+4	153/ 219	225/ 219	7.39*** (K)
Information about the IIP camps received from anganwadi workers	1+2+3+4	145/ 155	198/ 225	1.79
No problems faced by mothers during immunization	1+2+3	109/ 119	131/ 137	1.33
No problems faced by child after immunization	1+2+3	83/ 119	99/ 137	.44
Follow-up visits made by anganwadi workers after immunization	1+3	56/ 108	71/ 126	.69
No action taken (if child was sick) following immunization	1+3	12/ 46	15/ 48	.55

¹ Letters in parentheses indicate direction of significance.
K—Khanjawala

*p < .05
***p < .002

- (b) As indicated in Figure 14, the anganwadi workers had been the most frequent sources of information about the camps that were held during the IIP. The other sources of information in this context were neighbours and relatives, mass media and miscellaneous sources.

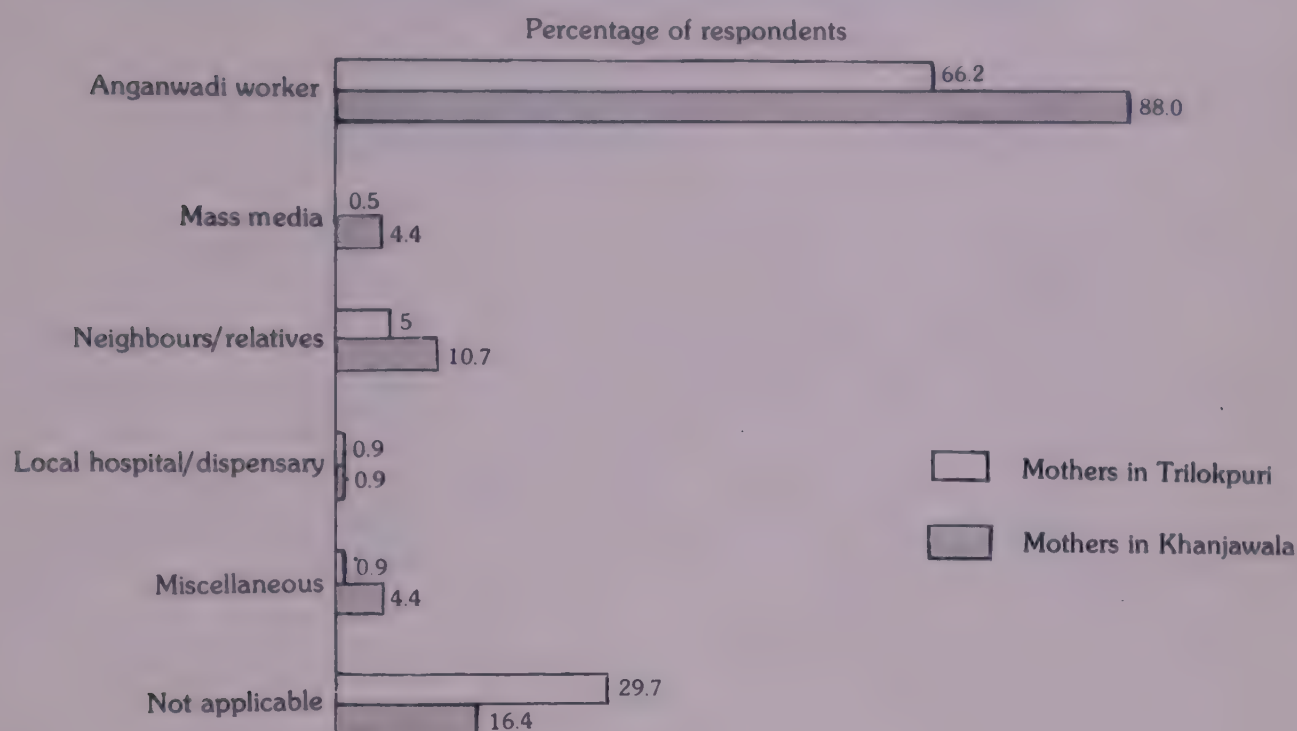


Figure 14
Sources of Information about the IIP Camps

- (c) A comparison of the reasons received in Trilokpuri and Khanjawala revealed no significant differences between the two areas in terms of the inputs of the anganwadi workers in this context (Table 5).
4. Did you face any problems when you went to have your child immunized?
- (a) Analysis of the responses to this question revealed that there were no significant differences between Group 1 and Groups 2 and 3, in both Trilokpuri and Khanjawala (Table 4).
- (b) Most of the mothers had not faced any problems while getting their children immunized (Figure 15). A few mothers in Group 3 (Trilokpuri), however, said that they had had to wait too long at the immunization centres before they could have their children immunized.
- (c) There were no significant differences between Trilokpuri and Khanjawala on this variable (Table 5).

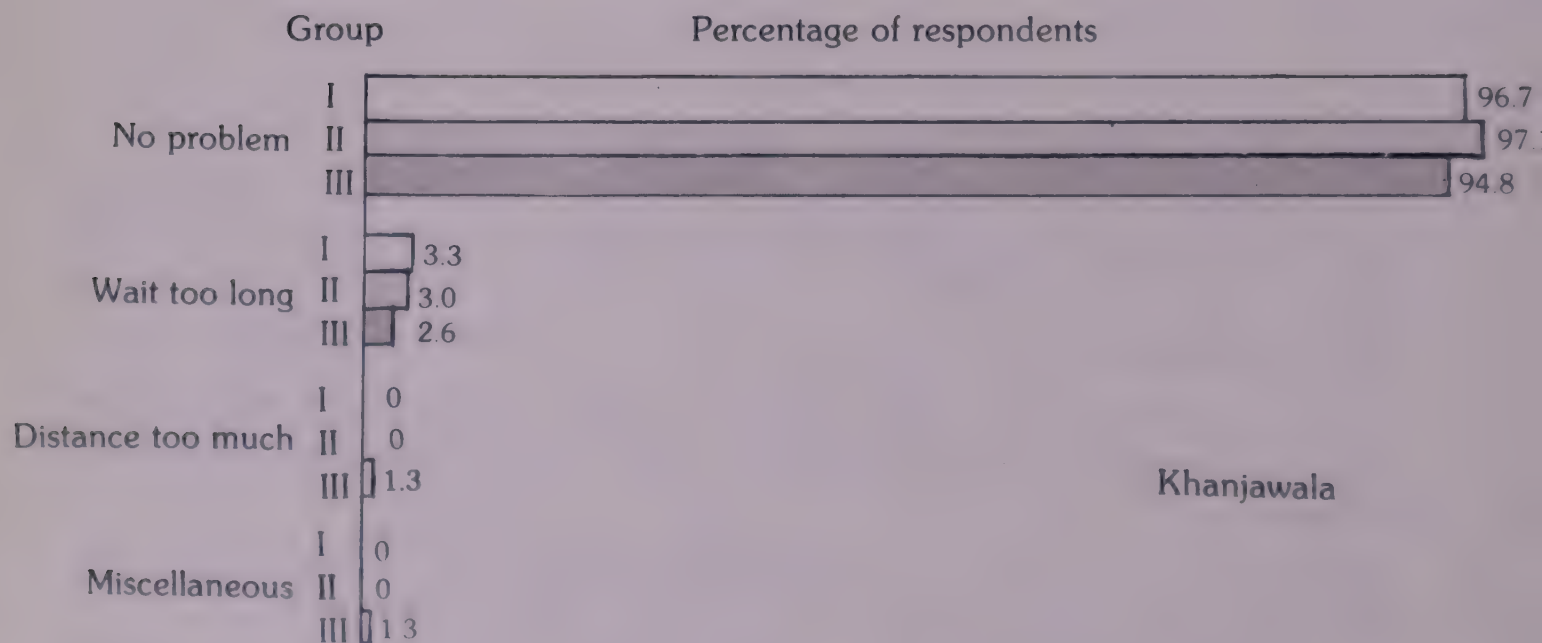
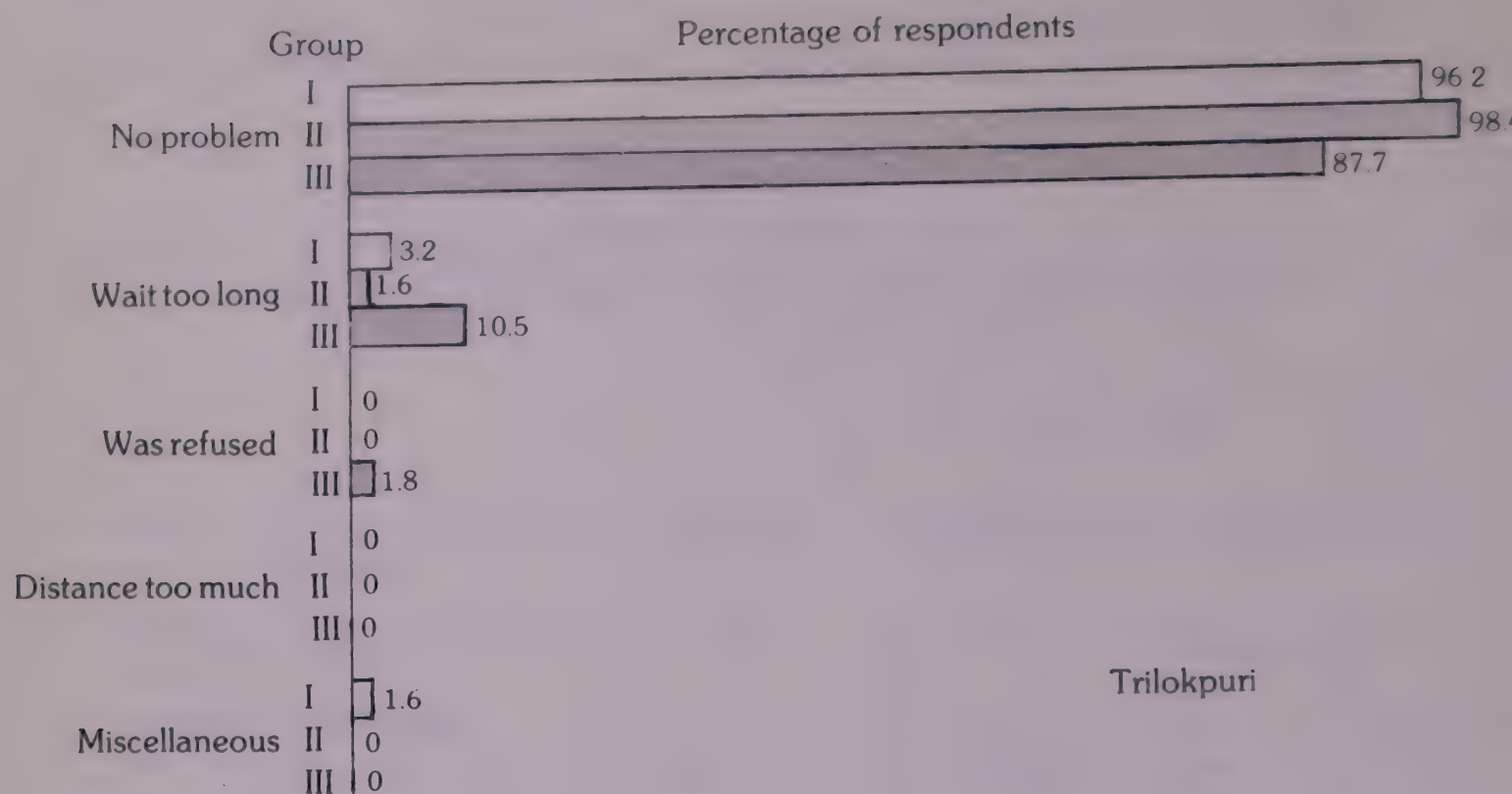


Figure 15
Problems Faced by Mothers while having their Children Immunized

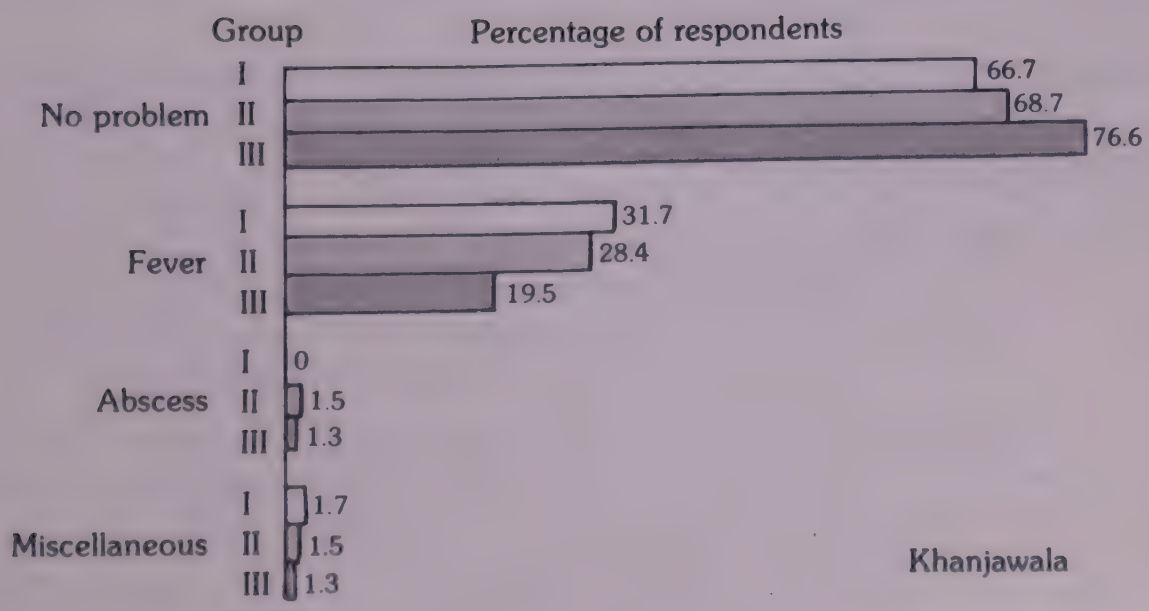
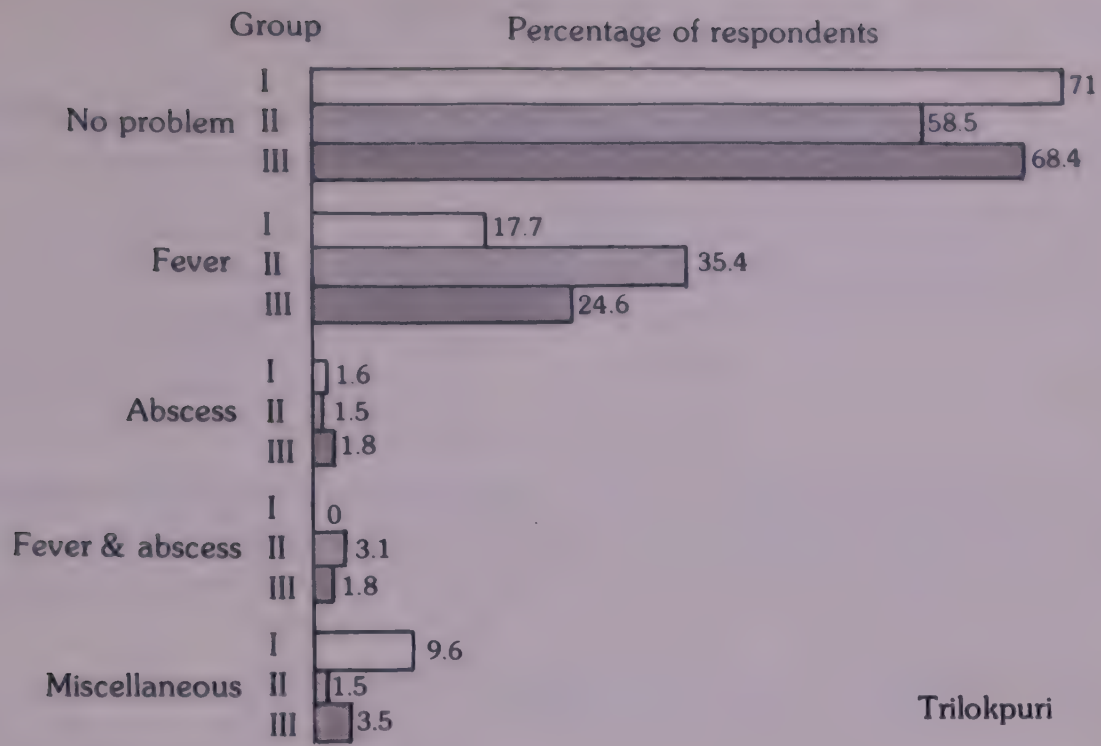


Figure 16
Problems Faced by Children after Immunization

5. Did your child face any problems after being immunized?
- (a) No significant differences were found between Group 1 and Groups 2 and 3 in both Trilokpuri and Khanjawala (Table 4).
 - (b) As indicated in Figure 16, in both Trilokpuri and Khanjawala, most of the children had not faced any problems after immunization. There were, however, some cases where the child had contracted fever after immunization.
 - (c) There were no significant differences between Trilokpuri and Khanjawala on this variable—the problems that had been faced by children after immunization were comparable in the two areas (Table 5).
6. After you had your child immunized, did someone come to you for follow-up?
- (a) Results indicated that in Trilokpuri, follow-up visits (after the child's immunization) had been made more infrequently in the case of Group 3 as compared to Group 1 ($p < .05$). There were no significant differences between Group 1 and Group 3 in Khanjawala in this context (Table 4). (This question did not apply to Group 2).
 - (b) There were no significant differences between Trilokpuri and Khanjawala, on this variable—almost equal numbers of mothers in both areas said that the anganwadi workers had come for follow-up visits after they had had their children immunized (Table 5).
7. (If child was immunized at camp, and had faced some problems)
What follow-up action was taken?
- (a) When Group 1 was compared with Group 3, significant differences were found ($p < .05$), though only in Trilokpuri (Table 4).
 - (b) Differences between the two areas were non-significant on this variable, indicating that in both areas, follow-up action—when a child had fallen sick after immunization—had been almost equally effective (Table 5).

Discussion

This chapter contains an analysis of the results obtained during this study. Discussions that follow are presented in three major sections, based on the broad areas that were investigated:

1. Information About Immunization
2. Attitudes Towards Immunization
3. Facilities For Immunization

The first two of these sections provide implications for future communications strategies, while the third contains suggestions with regard to the delivery of services in immunization programmes.

Information About Immunization

Information About Immunization—1

Availability of Different Kinds of Information

During the study, the mothers' levels of awareness were assessed for several different variables relating to information about immunization. As has been mentioned in previous sections of this report, two major types of statistical analyses were used in interpreting the data received on these variables.

The first of the two statistical computations involved comparisons between groups, wherein responses given by women in Group 1 were compared with those given by Groups 2, 3 and 4, for each of the variables relating to information about immunization. These comparisons were made in order to ascertain whether or not women whose children had been *totally immunized during the IIP* (Group 1) were better informed, as compared to those whose children

- had been *totally immunized even before the IIP* (Group 2)
- had been only *partially immunized even after the IIP* (Group 3)
- were *not immunized even after the IIP* (Group 4).

Results of these comparisons indicated significant differences between Group 1 and Group 4 on almost all variables relating to information about immunization.¹ These variables included the need to have children immunized, the names of preventable diseases, the symptoms of each of these diseases, and the number of doses required for complete immunization. Mothers who had not had their children immunized, therefore, had much lower levels of information as compared to those whose children were totally immunized.

This finding brings us to an important question. With reference to the information variables that

¹ Table 1

have been listed, is it possible that the extent of a mother's awareness would be significant in determining whether or not she would have her child immunized?

The results of several research studies would suggest an affirmative reply to this question. A recent report, for instance, indicates that the availability of information is the most vital factor in the success of any immunization programme. "The findings of ... surveys and studies ... show that the largest single reason for failure to finally immunize children is that their parents lack information" (WHO South East Asia Region, 1983, p. 14).

Findings obtained within this study, however, indicate that the variable of information—on questions such as the names of preventable diseases, their symptoms, causes², and the number of doses required for their prevention—may *not*, in fact, be an important determinant of whether or not a mother would have her child immunized. The incident described here clearly

Prior to the data collection of this study, the investigators met a group of women in Khanjawala who had, just then, had their children immunized at one of the IIP camps. While talking informally with the mothers, the investigators asked them why they had had their children immunized. The general response was, "We heard that these injections prevent sickness". When asked which diseases were prevented by "these injections", the mothers were at a loss for an answer. One lady eventually ventured a reply, "I'm not sure—but I think it prevents 'Polia' (sic)",

"And what is this 'Polia'?"

"I don't know, *behenji*—we are illiterate people—what do we know about these things?"

suggests that all mothers of immunized children do not necessarily have detailed information about immunization. More substantive bases for this claim are contained within the second type of statistical computation that was applied during this study to analyse the mothers' responses relating to information about immunization.

The second method of statistical analysis compared the number of *correct responses* given by each group of mothers with the *total number of responses* given by the same group. Through these comparisons it was possible to assess whether or not each group had "adequate" information on each of the variables relating to facts about immunization. Results of these analyses indicated that there were *significant differences* between the number of correct responses and the total number of responses for *all four groups* of mothers (in both Trilokpuri and Khanjawala) on *almost all the variables* relating to information³. In other words, even among mothers whose children were totally immunized, there was not a great deal of awareness about factors such as the names of preventable diseases, their symptoms, and the number of doses required for immunization.

Responses to only one question deviated from this general pattern of low levels of awareness. This question asked whether or not children could die as a result of non-immunization. Results indicated that a high level of awareness on this variable was present in only one group of

² Figure 4

³ Table 2.

mothers—those whose children had been totally immunized even before the Delhi IIP (Group 2). The other three groups of mothers, Groups 1, 3 and 4, had low levels of awareness on this variable.

Returning to our earlier question as to whether or not information about immunization can significantly affect a mother's decision to have her child immunized, the results that have just been cited indicate that only *one* particular kind of information seems significant in motivating mothers toward immunizing their children—the knowledge that *children can die if they are not immunized*. This conclusion is based on the fact that

- Group 2 was the most highly motivated group of mothers in the sample—they had had their children totally immunized even before the onset of the Delhi IIP
- Knowledge that non-immunization can result in death was the only variable of information on which awareness levels were high among this group of mothers.

Before we can neatly tie up this major conclusion, however, there are a series of related questions that merit further discussion:

1. The conclusion made about the most important piece of information (in terms of motivating mothers towards immunization), is based on the assumption that Group 2 was, in fact, the most highly motivated group in this context. Group 1, however, also consisted of mothers of totally immunized children. Why should this group not be considered the most highly motivated group instead of Group 2?
2. Mothers in Group 2 did have adequate information relating to the question, “Can a child die as a result of non-immunization?” However, on the previous question on the interview schedule, “What is the worst possible outcome of not having a child immunized?”, a fair number of mothers in Group 2 did *not* respond with, “Death”⁴. Why this discrepancy?
3. Apart from mothers in Group 2 in both Trilokpuri and Khanjawala, women in Group 3 in Khanjawala *also* had adequate information on the variable that failure to immunize a child can result in her/his death⁵. If awareness on this variable does, in fact, lead mothers to immunize their children, why had the Group 3 mothers in Khanjawala had their children only partially immunized?
4. If knowledge that non-immunization can lead to death is a significant factor in motivating mothers to have their children immunized, what are the most effective ways to communicate this message?
5. Is it satisfactory to plan to convey only one message to mothers (that non-immunization can result in death), and to exclude all other kinds of information from communications campaigns?

Each of these five questions that has been listed here has been discussed in some detail.

^{4,5} Table 2.

The first issue that confronts us pertains to the question as to why mothers in Group 2 might be considered more highly 'motivated' as compared to those in Group 1. In this context, it would be pertinent to view some of the strategies that had been employed during the Delhi IIP.

The responsibility for motivating mothers to immunize their children had been allocated to the anganwadi workers in the two areas, Trilokpuri and Khanjawala. Prior to the implementation of the Delhi IIP, programme planners had provided incentives to the workers—the latter had been told that they would receive material reinforcements depending on how many children they could have immunized in their respective areas.

During the course of data collection for this study, it was discovered that the anganwadi workers had, in turn, developed their own ingenious scheme of incentives for the mothers ('disincentives' might be a more appropriate word in this context). The workers tackled recalcitrant mothers with a simple threat—if their children were not brought for immunization, they would not be given the (free of charge) nutritional supplements that they were normally provided with at the anganwadi.

When the anganwadi workers first heard of the field visits that were being conducted for this study, many of them firmly came to the conclusion that the actual (and concealed) motive of this study was to somehow evaluate *their* efforts within the community. As a result, the 'diligence' of the workers was more than apparent at all stages of the data collection.

On the first day of data collection in Khanjawala, an investigator came across a mother who was unsure about the number of doses that are required for immunization. The lady pondered the question at length; and suddenly began to look very intently at a point over the investigator's shoulder. Turning around to check the source of the mother's distraction, the investigator discovered the anganwadi worker sitting directly behind her, vigorously tapping three fingers against her right cheek.

As has already been mentioned, Group 1 mothers had had their children totally immunized during the Delhi IIP, while the children of mothers in Group 2 had been immunized even before the IIP. Since the latter group of women had not received the incentives that had been provided to those in Group 1, it is likely that they were the more motivated of the two groups in terms of having their children immunized.

The second of the issues that need further discussion is linked with the fact that several mothers in Group 2 did not give the response, "Death", when questioned about the worst possible outcome of not having a child immunized. With regard to this finding, it might be relevant to view some research findings in the field of human psychology, which have to do with factors in memory and the recall of information from an individual's memory store.

Studies in the area of memory have established that repeated rehearsals of a piece of information are extremely important in committing that information to the individual's 'long-term' memory, where the information is relatively permanently stored (Morgan & King, 1978).

With regard to awareness-building campaigns on immunization, it must be recognised that almost all messages dealing with the outcome of non-immunization emphasize prolonged illness—in the form of chronic and severe coughs (pertussis), paralysis of limbs (poliomyelitis), etc. This was indeed the case in the Delhi IIP; messages on this subject repeatedly described the various kinds of diseases that could result from non-immunization (Gill & Sapra, 1984). It would, therefore, be logical to conclude that because of the frequent repetitions of this message, the mothers internalized it, or transferred it to their 'long-term' memories.

A related finding in psychological research has to do with the retrieval of information from long-term memory stores. Studies have shown that information in the long-term memory is 'pigeon-holed' as it were; items of information have 'addresses' within categories. Recall of information from the memory store requires a search, and recall is much more efficient when 'retrieval cues' are relevant to the material sought. These cues guide the person's search to the right parts of the memory store (Tulving & Pearlstone, 1966).

In this context it is necessary to note that in terms of semantics, there is a great deal of similarity between the question and the messages on the outcomes of non-immunization: the question asked about the worst outcome of non-immunization, and the messages, essentially, said that serious illnesses are the outcomes of non-immunization. Because of this similarity, the question concerned probably served as an efficient 'retrieval cue' and guided the respondents' search directly to the informational messages that they had received on the subject, which, then, provided the response, "Prolonged illness"⁶. On the basis of these analyses, it does not seem surprising that the mothers in Group 2 had responded differently to the question on the worst outcome of non-immunization and the question—"Can a child die as a result of non-immunization?"—the latter question did not have the problem relating to semantics which was inherent in the former question.

The third of the five questions that need clarification has to do with the fact that in Khanjawala, women in Group 3 had adequate information on the variable that death can be the outcome of failure to have a child immunized. If knowledge on this variable is crucial in motivating mothers towards immunization (as has been suggested), why had this group of mothers had their children only partially immunized?

An explanation for this finding may lie in the possibility that mothers in this group *were* in fact, highly motivated towards immunizing their children but were prevented from doing so by forces beyond their control. Support for this assumption is provided later in the chapter, within the section, "Attitudes Towards Immunization".

The fourth of the five major questions that were listed earlier in this chapter relates to the methods that could be used to convey to mothers the 'key' message—that children can die if they are not immunized.

Research in the area of health education has revealed that fear-arousal is often an effective technique to ensure participation in health programmes. This technique operates on the basic

⁶ Similarly, on two other questions in the interview schedule, "Why must children be immunized?" and "Why did you have your child immunized?"—almost all the mothers had given the same response—"To prevent sickness".

principle that 'threat avoidance' is frequently an important factor in influencing different kinds of human behaviour (Tinkham & Voorhies, 1977). In conveying messages on health facilities, then, it is useful to communicate to a community

- a. that they are truly susceptible to the disease in question;
- b. that this disease, if contracted, can have serious implications;
- c. that preventive measures (for this disease) are available

(Hochbaum, 1962; Richards, 1981).

Experiments in the field have also established, however, that caution has to be observed while using fear-arousal techniques for motivating communities. It has been found that people are highly motivated to act only under conditions of mild anxiety—too much as well as too little anxiety, can inhibit action (Archer & Fleshman, 1975; Spradley, 1981).

How do these findings translate in the context of this research? It is evident that conveying the message that non-immunization can result in death involves the technique of fear-arousal. More importantly, it appears that the semantics that are used while communicating this message would probably affect the levels of anxiety that are generated by it.

In simple terms, the issue of semantics in this regard has to do with the fact that messages on the outcomes of non-immunization can vary considerably in tone. Some possibilities include:

"Children die if they are not immunized"

"Your child can die if she/he is not immunized"

"Children can die if they are not immunized"

Of the three messages listed, the first implies that all children who are not immunized, die. Being a factually incorrect statement, this message is unsatisfactory—health education campaigns must include only those messages that are based on precise epidemiological data (Hygie, 1983).

Owing to the extreme directness of its approach, the second message listed may generate high levels of anxiety or discomfort among mothers. The third of the messages is put across from a somewhat 'safer' distance, and may, therefore, avoid creating the feelings of uneasiness that the previous message could bring about. On the other hand, mothers' identification with the last message may be slightly lower than with the second one, as the latter carries a much more personal tone. Assessing the relative usefulness of these two messages was beyond the scope of this study; this could be explored in the future with the help of small-scale field studies.

The last of the five issues that need further discussion relates to the question as to whether or not one message—that non-immunization can lead to death—is, by itself, sufficient for all communications campaigns on immunization.

Previous research in the field has revealed that health education programmes frequently make the mistake of conveying a bulk of diverse information in one exposure (Ramachandran & Dharmalingam, 1983). It has also been found that providing an overload of information often leads to low retention of each of the messages communicated, as there are limits to the amount

of information that an individual can assimilate at any one time (Archer & Fleshman, 1975; Morgan & King, 1978).

This study has identified one message which is particularly useful in terms of developing motivation towards immunization. Therefore, it seems logical to conclude that at the start of any immunization programme, this message should be communicated by itself, without any distractions from other kinds of informational inputs. Further information, however, would also have to be conveyed; but only *after* the mothers in the community have understood and internalized the first message.⁷

Given the suggestions that have just been outlined, one question remains unanswered: how can programme planners determine exactly how much of an informational input is required to ensure that the message in question is completely understood and internalized by a community?

Research studies in the field have indicated that in order to ensure that a group of people fully comprehends and accepts a particular message, they must be exposed to the same message on a number of occasions (Turner *et al*, 1970). In terms of the implications arising from this study, it is recommended that all media inputs in immunization programmes should focus, initially, on conveying the information that *non-immunization can lead to death*. The simultaneous use of different forms of media (personal contact, posters, programmes on the radio or television, folk theatre, etc.— whichever are most relevant to the community concerned) would ensure that the community's attention is brought to focus on the same message on several different occasions.

Soon after the initial message has been introduced, the mothers would have to be told that in order to have their children totally immunized, they would have to make *at least three visits* to the immunization centres. This message would have to be followed up with information about the *availability of immunization facilities*. The people must be told about the place and time that facilities for immunization would be available within their localities. Again, different forms of media can be used to ensure that the messages are internalized.

Gauging the adequacy of these initial inputs would be possible on the day of the first round of immunization— if inadequate numbers of mothers arrive at the immunization centres, inputs in this phase of the communications strategy would probably need to be stepped up.

Once the mothers have been sufficiently motivated to bring their children for immunization, they may desire further information about immunization. Communications materials of various kinds would, therefore, have to be made available to the field level workers, which they could use to provide information on the *names of preventable diseases*, their *symptoms and causes* and the *schedule of doses* required for complete immunization. Finally, it is

⁷ These recommendations are supported by the results of this study which revealed that (a) knowledge that non-immunization can result in death is significant in motivating mothers towards immunization, and (b) in Trilokpuri and Khanjawala, even mothers of totally immunized children desired further information about immunization.

extremely important to ensure that just before as well as during each immunization round, the mothers are clearly reminded that *until the child has received all the required doses, he is still exposed to all the risks that are associated with non-immunization.*

Implications

Preceding discussions have led to the following recommendations for communications programmes on immunization:

1. The initial focus of communications programmes should be on conveying the message that the failure to immunize children can result in their death. The most appropriate version of this message—in terms of semantics—can be ascertained with the help of further field research.
2. Shortly after the introduction of the first message, mothers would have to be told that for their child's complete immunization, they would have to make at least three visits to the immunization centres.
3. Following this, the women would have to be informed as to when and where immunization facilities would be available to them.
4. Once the mothers are sufficiently motivated and bring their children to the immunization centres, they may desire further information on the diseases prevented with immunization, their symptoms and causes, and the detailed schedule of doses required for complete immunization. Information about various aspects of immunization, therefore, would have to be available to the field level staff.
5. In conveying any message on immunization, efforts must be made to simultaneously use different forms of media to ensure the community's repeated exposure to the same message.
6. Before each immunization round, as well as at the time of actually administering each dose, the mothers must be reminded that unless the child has received *all* the doses that are required, he is still vulnerable to the eventualities of non-immunization.

Information About Immunization—II

Comparisons Between Trilokpuri and Khanjawala

Several research studies in the field of health education have indicated—and sometimes very strongly—that rural communities are not as well informed as their urban counterparts are, on several issues relating to health care (Basu & Sokhey, 1982; Gupta, 1984).

In India, rural families are largely ignorant of the essential elements of physical care of children or the basic principles underlying child development.

(UNICEF, 1963, p. 162)

When one takes into account the conditions of poverty, illiteracy, ill-health and social and economic stagnation prevailing in the rural communities, their cultural isolation and low

capacity to profit from science and technology, it is difficult to have faith in the limitless capacity of the rural people to fashion a better life for themselves.

(Mukherji, 1967, p.4)

Villagers are ignorant, particularly on health matters.

(Bedi, 1977, p. 407)

The results of this study, however, provide a contradiction to these widely held beliefs—mothers in Khanjawala (the rural block) were much better informed than those in Trilokpuri (the urban area), on all variables relating to facts about immunization.

Several explanations seem plausible in accounting for the differences between the levels of information in the two areas:

1. The anganwadi workers had been the major sources of information for the mothers. There could, possibly, have been differences in the levels of information/motivation between the anganwadi workers in the two areas, which, in turn, may have been responsible for different levels of awareness among the mothers.
2. There might have been differences in terms of mass media inputs (the other intended source of information) in the two areas.
3. Women in Khanjawala may, for some reason, have been more receptive to information about immunization as compared to mothers in Trilokpuri.

The first of these hypotheses seems untenable for two reasons. Firstly, just before the IIP, both sets of anganwadi workers had been given the same orientation course (where they learnt various facts about immunization). Therefore, there are no firm grounds for the assumption that there were differences between the two groups of workers in terms of the information they had. Secondly, both sets of workers had, again, been provided similar incentives in terms of the reinforcements they would have received with high coverages in their areas. In fact, a spirit of friendly competition existed between the workers in the two areas, with regard to the number of children each could have immunized during the IIP (UNICEF, 1984 b).

Finally, statistical analyses made during this study establish that there were no variations between the two areas in terms of the effectiveness with which the workers had discharged their duties.

In summary, then, there does not seem to be any valid basis to accept the hypothesis that differences between the anganwadi workers were responsible for the fact that mothers in Khanjawala were better informed about immunization than those in Trilokpuri.

Similarly, inputs in terms of mass media (posters) did not show any obvious variations in the two areas, Trilokpuri and Khanjawala. Differences in terms of media inputs, therefore, must also be ruled out as a factor that could have possibly led to the differential levels of information among the mothers in the two areas.

We arrive, then, at the third hypothesis—that there may have been some differences between the mothers themselves that were responsible for the fact that the rural women were better informed than the urban ones. The discussions that follow provide some support for this assumption.

In terms of living conditions, the two areas—Trilokpuri and Khanjawala—provided a stark contrast. Houses in Trilokpuri were very small and were situated adjacent to each other. Levels of privacy for individuals or families seemed to be extremely low (if at all existent); each household seemed almost to spill into the next. Noise levels, again, were very high. At any one point in time, one could simultaneously hear one or two radio sets, several loud conversations in the near vicinity, along with the odd neighbourhood brawl. Houses in Khanjawala, by contrast, were large and spacious. The general atmosphere in the village was one of quiet and tranquility.

Research in the field of psychology has identified several factors which are related to the learning of information. Among the most important of these is 'distinctiveness of stimuli'. In simple terms, this expression refers to the extent to which a stimulus (or the information to be learnt) stands out from the background; a distinctive stimulus is learnt much more easily than one which is embedded in a sea of miscellanea (Morgan & King, 1978). In relation to these findings, it must be noted that the physical environments in Trilokpuri and Khanjawala were, in all probability, very different in terms of their conduciveness to the learning of new information. Women in Trilokpuri were constantly faced with myriad distractions—visual as well as auditory; inputs of information were probably far more 'distinctive' for the Khanjawala mothers. The differential levels of information between the two areas, therefore, may have been caused—at least in part—by variations in the physical environments in the two areas.

Another point of difference between the women in Trilokpuri and Khanjawala has to do with the attitudes of the women (which, in turn, may well be related to living conditions in the two areas). At several stages during the data collection, it was apparent that the women in Trilokpuri were far less warm and receptive towards the investigators as compared with the women in Khanjawala.

In an earnest effort at establishing rapport with a Trilokpuri mother, an investigator amiably asked if she might sit down next to the lady. The response she received was monosyllabic and negative. Assuming that her question had not been heard correctly, the investigator repeated it; the mother's response was unaltered.

In Khanjawala, on the other hand, the investigators had a strong taste of the proverbial rural hospitality. On more than one occasion, they were faced with situations where they had to drink up to 3-4 tall glasses of fresh cow's milk, given to them (in the space of a few hours) by the various mothers they had interviewed on that day.

A neat link between the attitudes of the women in Trilokpuri and their relatively low levels of information is observed in the words of one of the anganwadi workers: "These women face

many problems; life is not at all easy here... most of the women work hard right through the day... how much interest can you expect them to show in what we have to tell them about injections (immunization)?”.

A third factor which may be related to differential levels of awareness in the two areas has to do with variations in the availability of health services. In Khanjawala, several women had reported that they had low access to health facilities. Medical centres were situated at some distance from their villages; modes of transportation, when available (which was infrequently), proved to be expensive. In view of these factors, it may well have been expected that as compared to the urban women in Trilokpuri, mothers in Khanjawala would have been far more interested in and receptive to issues relating to health care.

In conclusion, the fact that women in Khanjawala were generally better informed about immunization as compared to those in Trilokpuri, seems to be intimately linked with several characteristics of the ecology in the two areas. This conclusion is provided further support by the findings of previous research studies, which have clearly shown that pressures emanating from the physical environment can be significant in influencing the receptiveness of a community to programmes on health, welfare or education (Spradley, 1981; Tinkham & Voorhies, 1977; UNICEF, 1963).

Implications

Identification of the precise reasons for differences in levels of information between the two areas, Trilokpuri and Khanjawala, was beyond the scope of this study. Nevertheless, the observation of these differences in itself carries a strong note of caution. All too frequently, programme planners in the fields of health and welfare tend to produce ‘package programmes’ intended for use in all parts of the country. The adoption of an approach that is based on the specific needs and characteristics of a particular area has frequently been advocated (Durana *et al*, 1980; Richards, 1981; Williams & Jellife, 1972). In reality, however, such an area-specific approach is rarely implemented (Hygie, 1983).

As revealed by this study, there were major differences between two areas which were situated barely 60 kilometres away from each other. This fact strongly underscores the need for all intervention programmes to be based on a preliminary investigation of the *specific* characteristics and needs of the community that is being dealt with.

Information About Immunization—III Sources of Information Received

During the Intensive Immunization Programme, two major sources were used for the dissemination of information—the anganwadi workers, and mass media (mainly posters). The results of this study indicated that a vast proportion of the mothers in Trilokpuri and Khanjawala had received whatever information they had about immunization from the anganwadi workers in their localities.¹⁰ Mass media had, apparently, played a relatively insignificant role in information dissemination.

¹⁰ Figure 12

What are the implications of these findings? On the basis of these results, one might be tempted to conclude that for future communications campaigns on immunization, the most effective strategy would be to rely heavily on the use of community level workers (such as anganwadi workers) for conveying information, and to use mass media to a limited extent, if at all. Before making such a radical conclusion, however, it would be prudent to take a closer look at a series of related issues.

Several research studies have established that personal contact is an extremely effective technique in motivating communities towards the utilization of health services (Wilbur, 1968; Park & Park, 1970). According to these studies, the major advantage of using interpersonal communication in such spheres (as against mass media) is that face-to-face contact provides for two-way communication, which is a vital factor in any kind of health education programme (Wilbur, 1968; Park & Park, 1970).

While interpersonal communication may have been proved to be a highly desirable method for information dissemination, it must be recognized that the training of individuals to be truly *effective* community level workers is by no means an easy task. A host of attributes have been cited as being essential for any worker dealing with communities, including tactfulness, the ability to invoke the people's trust, flexibility and adaptability in terms of sentiments within the community, intelligence and insight, courtesy and enthusiasm (Wilbur, 1968; Durana *et al*, 1980; Sweemer, Sengupta & Takulia, 1978; WHO Expanded Programme on Immunization).

In view of this fairly exhaustive and exacting list of 'essential qualities' for workers, it may be a trifle unrealistic for any large scale programme on immunization to rely solely on the use of community level personnel for disseminating information and motivating mothers towards immunization.

A question might be raised at this point—the IIP experience in Delhi, according to this study, has shown that anganwadi workers had, in fact, functioned fairly effectively in terms of spreading awareness about immunization within the communities. Given this evidence, what reason is there to doubt the efficacy of using similar approaches in the future?

In dealing with this question, it is necessary to focus, once again, on the strategies employed during the IIP, wherein programme planners provided incentives to the workers, who in turn, developed their own set of incentives for the mothers. Consider, for a moment, nation-wide scheme based on this experiment—hundreds of millions of mothers would have to be 'coerced' into having their children immunized by hundreds of thousands of workers who, in turn, would be 'motivated' into achieving high targets. A large scale 'carrot-before-donkey' scheme of this kind is unrealistic at the outset.

Apart from its lack of feasibility, a scheme of the kind just described would also probably serve only as a one-time input. It is unlikely that mothers who are practically compelled into having their children immunized, will truly understand and internalize the fact that it is important to have their children immunized. Again, unless a group of mothers has actually understood the

need for immunizing children, it is not likely that they would teach this message to their growing children. With each new generation of parents, then, programme planners operating with such a scheme would have to start at scratch, once again setting the whole system of levered rewards and reinforcements into action, and dealing with just as many millions of mothers as has been dealt with in the previous effort (if not more, with current rates of population growth in the country).

Despite all the incentives that had been offered to the anganwadi workers, as well as their close supervision during the IIP, the process of data collection for this study revealed that some of the workers had developed their own short cuts to success. Here are some excerpts of conversations between the anganwadi workers and the investigators working for this study.

"Where is the need to go out in the heat and tire yourself*—let's sit in the anganwadi, I'll fill in your forms for you . . .

"I'll give you all the answers you need—why do you want to talk to these women—I can tell you whatever they might say. . .

"Come on now, relax; tell your 'madam' that you couldn't manage to do more (interviews) than these—I won't let on".

* This should actually read 'ourselves'; the anganwadi workers were to accompany the investigators into the field.

Implications

None of the preceding discussions have been presented with a view to minimizing the importance of interpersonal, face-to-face communication in health education campaigns. On the other hand, the effectiveness of this approach has been recorded and is concurred with entirely. The intention underlying previous paragraphs is merely to point out the risks of relying *solely* on interpersonal contact for disseminating information, with minimal reliance, if any, on mass media. If it were at all possible to mobilise an army of talented, motivated community workers, this would provide a more or less ideal solution to the problem of motivating communities. Given the existing constraints of resources in our country, however, it may be more judicious if publicity efforts were shared between community level workers and various forms of mass media. (The role of mass media in communications campaigns of immunization is discussed in detail in a later section).

Information About Immunization-IV

The Use of Local Workers

Another comment with regard to the use of interpersonal communication for information dissemination has to do with the selection of the personnel concerned. Several experiments in the country have indicated that people who are to work intensively within a community must be selected from the same community (Downham, 1982; Sweemer, Sengupta & Takulia, 1978). The rationale underlying this recommendation is that the members of a community are likely to respond most positively to workers who are highly similar to themselves in terms of socio-cultural variables (Wilbur, 1968).

Some studies, however, have carried a caution against the use of local personnel for educational or motivational activities. It has been pointed out, for instance, that people tend to alter their behaviour patterns if they feel that these changes in behaviour will help them to secure the approval of people who represent prestige groups to them (Wilbur, 1968). Data obtained within this study provide some support for this statement. During the field visits, several women (particularly in Khanjawala) questioned the investigators at length about various aspects of immunization. With some indignation, the anganwadi workers who accompanied the investigators asked the mothers why they had not raised these questions when the workers had discussed the same issues with them earlier. The response was simple—"We want to ask 'Madam ji', not you". On the basis of these findings in Khanjawala, it is apparent that for promoting community participation, personnel who represent prestige groups to the local people may be used to supplement and reinforce the efforts of the local workers.

In several parts of North India, village exogamy is the norm. When a rural girl gets married, she shifts from her own village to that of her husband. Further, any girl who comes into a village as a daughter-in-law is seen—by extension—as a daughter-in-law by the rest of the village as well. And in terms of social status, a young 'bahu' is at the lowest rung.

Many of the anganwadi workers in Khanjawala were young women, who had recently come to their husbands' homes. Apart from the fact that they lacked 'prestige' by virtue of belonging to the same socio-cultural background as the community, the seriousness with which these workers were taken by the mothers was further reduced by the fact that they were among the newest recruits to the ranks of village daughters-in-law.

In Trilokpuri, a somewhat different kind of hazard was apparent with regard to the use of local workers. Some of the women who had been selected and trained to function as anganwadi workers saw themselves almost as having 'risen above' their own kind. In a few instances, therefore, the workers' attitudes to the mothers bordered on general disdain or even scorn.

Extracts from conversation of Trilokpuri anganwadi workers with field investigators:

"These are poor women—they don't know anything—there's no sense in asking *them* questions".

"The women in this area are no-good. Some of them gamble; some even drink alcohol—how can *they* take care of their children?"

"They (the mothers) have no brains. You see, they're S.Ts* (sic)".

*Scheduled Tribes.

Research studies have shown that training programmes for field level workers sometimes fail to ensure the eradication of negative feelings in the workers—such as condescension or scorn—

towards the communities they work with (Werner & Bower, 1982). Needless to say, such negative attitudes may very well be the undoing of any campaign aimed at informing or motivating communities.

Implications

For any informational or educational campaign which relies heavily on the use of interpersonal communication, it is imperative to make sure that the workers that are selected are viewed positively by the community. Further, it must be ensured that these personnel themselves do not carry negative attitudes towards the people they deal with (or, at least, that where such attitudes do exist, that they are not made apparent during the workers' interactions with the people).

Information About Immunization-V

The Role of Mass Media

Results of this study indicated that the women in both Trilokpuri and Khanjawala had mentioned mass media infrequently when asked

- a) where they had got their information about immunization from; and
- b) where they had heard about the IIP camps from.¹¹

The fact that mass media played such an insignificant role during the Delhi IIP appears somewhat contradictory to previous research in the field. Several studies in the past have established that mass media often serves as an extremely effective method for conveying a variety of messages on health education (Austin, 1980; Wilbur, 1968). As compared to interpersonal communication, it has been found to be a less complicated means of information dissemination, as well a more economical one, particularly when large numbers of people have to be reached (Austin, 1980; Richards, 1981; Tinkam & Voorhies, 1977).

Since the efficacy of using mass media for health education has been vouched for by several experiments, why was media found to play such an insignificant role in the case of the Delhi IIP? A series of factors may have been responsible for the relatively low responsiveness of the community to the media used; each of these factors is discussed individually.

Messages Communicated

During the IIP, sets containing five posters had been designed and distributed within Trilokpuri and Khanjawala. These posters were in different colours, and each carried a different message. The posters were meant to be put up in a certain sequence (which had been explained to the anganwadi workers with the help of a descriptive note).

The messages contained on some of the posters used during the IIP were fairly detailed. One of them, for instance, spelt out the number of doses required for the BCG, Polio and DPT vaccines, the age levels at which the vaccines are to be administered, and the time intervals required between the administration of each dose.

As has already been mentioned, research in the field of health education has repeatedly emphasized the dangers of conveying too much information at any one time, as there are limits

¹¹ Figures 12,14

Text of Posters •

1. (GREEN)

5 DANGEROUS DISEASES
T.B., Polio, Diphtheria
Whooping Cough & Tetanus
can be prevented

FOR PREVENTION
Have your child immunized **ON TIME**

2. (RED)

How many doses or injections are required
for immunization?

Polio	3 doses
Whooping Cough	}
Diphtheria	
Tetanus	
T.B.	1 injection

3. (BLUE)

FOR PREVENTION Immunization doses When and how often?			
Age	Name of injection/ medicine	How Often	Disease Prevented
Birth-	B.C.G.	Once	T.B.
3 months			
3-9 months	Polio	3 times at intervals of one month	Polio
3-9 months	D.P.T. (triple antigen)	3 times at intervals of one month	Whooping cough, Diphtheria Tetanus
1½-2 years	Polio and D.P.T. (triple antigen) Booster.	Once	Polio, Whooping cough, Diphtheria and Tetanus

4. (YELLOW)

Are there any infants in your
house?

REMEMBER

Polio can be prevented

IF your child is given 3 doses
of polio vaccine at one-month
intervals between the ages of
3 and 9 months

5. (ORANGE)

Vaccines for the prevention of
T.B., Polio, Diphtheria,
Whooping cough and Tetanus
will be available

FREE

Camps will soon be set up
near your house!

For further information, con-
tact the anganwadi worker in
your area.

* Translated from Hindi

All five posters were of the same size-15" x 20"

Each poster also carried an illustration of a child with a crutch.

to the amount of unfamiliar material that a person can understand or assimilate at any one time (Archer & Fleshman, 1975). Further, an overload of information often inhibits the individual's interest or motivation to learn. One of the reasons that mass media may have failed to have the intended impact, then, may have been that the posters simultaneously conveyed too much information to the communities.

The Distribution

During the process of data collection in the field, it was observed that in several cases, the posters had been pasted in a very arbitrary manner. For instance, they were sometimes pasted in the wrong order, while in some cases, only one or two of the complete set were seen. A few of the workers had opted for colour coordination: in their localities, clusters of red posters were seen in one street, while clusters of blue ones were prominent in the next. Some of the workers had stuck their posters at a height much above eye level (apparently to ensure that the local children would not tear them down). In several cases, the workers had actually used the posters to adorn the *inside* walls of their own anganwadis.

In order to effectively serve the function of disseminating information, each of the 5 posters in the series distributed were required to be put up, and in a particular sequence. Given the techniques of distribution that were actually used, it is not surprising that the posters were unsuccessful in achieving the desired objectives.

One-time Inputs

The posters that were used during the IIP had been put up in the localities several days before the first IIP camp was held (this was almost four months prior to the time of the final round of immunization). Of the posters that had been originally put up, some had inevitably, been pulled down or had fallen off. The few that remained had been there so long that they had probably become an extremely familiar sight and were not noticed any longer. No new, different posters had been put up at any time during the IIP, to bring the mothers' attention once more to this form of media.

By contrast, the anganwadi workers had talked with the mothers about immunization on several occasions during the course of the immunization programme. It is not surprising, therefore, that when asked where they had got their information about immunization from, the mothers mentioned the anganwadi workers much more frequently than they did the posters.

The Format

In visual terms, the posters used during the Delhi IIP were undoubtedly aesthetic as well as eye-catching. In fact, on several occasions during the data collection, it was apparent that the posters had served as effective identification marks for the immunization centres within the localities.

In terms of the format of individual posters, however, it was observed that most of them relied heavily on the written word to convey different messages. According to the results of the house-to-house survey that was conducted before the programme, only 31% of the mothers in

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Trilokpuri and Khanjawala were literate (UNICEF, 1984 a) The unsuitability of written messages for these populations is apparent, and provides yet another plausible reason for the relatively low impact of the posters as compared to interpersonal communication.

At this point, we are confronted with a fairly major question. Figures for female literacy are relatively low in most parts of the country. Does this fact eliminate the possibility of using printed posters for informational campaigns on immunization in India?

Two major factors indicate that posters can, in fact, be used effectively in our country. Firstly, posters intended to raise awareness levels need not necessarily rely heavily on the written word: clear, imaginative illustrations—with a minimum of written information—can serve as equally effective educational media. A word of caution, however, seems necessary in this context. Research studies have indicated that people who are not exposed to pictorial representation may have some difficulty in recognizing objects in pictures (Deregowski *et al*, 1972).

It has also been found that the kinds of illustrations used can significantly affect their comprehension: people who have had little exposure to two-dimensional pictures are better able to understand photographs and tone drawings as compared to simple outline sketches (Leach, 1978). Therefore, where illustrations are intended for use in awareness building campaigns (particularly in isolated parts of the country), these illustrations should be as close as possible to representing a 3-dimensional effect.

A field researcher reported an interesting experience that she had had while working in a rural area. In the village that she was working, an intensive campaign on the causes and effects of malaria was in progress. During this campaign, the organizers had brought to the community posters carrying large sketches of female anopheles mosquitoes. While this mosquito was being discussed, one of the women blandly informed the organizers that their programme was irrelevant in that area—none of the villagers had ever seen such a massive mosquito in the vicinity.

Socio-cultural relevance is also a vital factor in designing illustrated posters—the people and objects displayed should be those the community can easily identify with. Finally, care must be taken to ensure that the posters are visually appealing and distinctive, so that they do not fail to attract the attention of the people in the community.

A second comment with regard to the use of posters, vis-a-vis levels of literacy in the country, has to do with possibilities of aiming these posters at the *fathers* of young children, rather than their mothers. The survey conducted during the Delhi IIP revealed that in Trilokpuri and Khanjawala, literacy levels among males were fairly high (75.4%, as compared to 30.7% for females) (UNICEF, 1984 a). Further, during this study, it was found that in several cases it had been the fathers of the children, and not their mothers, who were the major decision makers with regard to whether or not the child was to be immunized.¹² It is quite possible that some of the fathers had responded to the written messages on the IIP posters, even if these messages had been incomprehensible to the women in the community.

¹² Figures 8, 9

For future campaigns relating to immunization, then, it may be a worthwhile experiment to aim at least some of the publicity posters at the fathers of children, rather than exclusively at their mothers.

Implications

Results of this study carry several implications with regard to the use of posters as publicity materials:

1. It is imperative to ensure that in the initial phase of any programme on immunization, the number of informational messages are limited. Since one message has been identified as being significant in motivating mothers towards immunizing their children, it is recommended that initially, all media inputs focus primarily on this message. As suggested in an earlier section of this chapter, communication of the key message must be followed up by information with regard to the availability of immunization facilities. Media on other aspects of immunization may also be prepared and distributed, but only after the community has absorbed and acted upon the initial messages.
2. Faulty distribution of posters can significantly reduce their effectiveness. The distribution and pasting of posters within a community must, therefore, be carefully monitored.
3. Publicity efforts cannot be sporadic and arbitrary. If posters are being used to spread awareness, it would be advisable to introduce, at intervals, visually distinctive sets of posters carrying the same messages; repeated exposure to a single message is essential for its internalization.
4. Socio-cultural characteristics of the targetted communities must be kept in mind while designing an informational campaign. Where literacy levels are low, greater reliance on pictures rather than words may be necessary.
5. As far as possible, pictures used should be photographs and tone drawings and not outline drawings, specially in areas which have had little or no exposure to 2-dimensional pictures.
6. The characters and objects in pictures should be those which the women in a community can easily identify with.
7. Visual appeal, clarity and distinctiveness must be ensured in the design of all posters.
8. For the future, the possibility of designing posters aimed at men may be considered, since literacy levels are higher among males, and fathers are frequently responsible for decisions as to whether or not their children should be immunized.

Information about Immunization-VI

The Puppet Show

During the early stages of the IIP, puppet shows on the subject of immunization had been staged in both Trilokpuri and Khanjawala. A gist of the show is presented here.

The Puppet Show

This show centres around a family of four—the parents, a boy of school-going age and a girl below two years. At the start of the show, the boy tries very hard to persuade his mother to have his sister immunized at a camp that is to be held at his school the next day. The mother is obstinate in her refusal. Inevitably, the young daughter dies of tetanus.

A second daughter is soon born to the parents. One night, while the mother is asleep, she encounters in her dreams the five 'killer' diseases (in the form of puppets). The diseases threaten that they will afflict the child as she has not yet been immunized. On awakening the next morning, the mother immediately summons her son and asks him to take her to his school so that the daughter might be immunized. When the mother is confronted by the diseases in her dreams a few nights later, she triumphantly informs them that this child *has* been immunized. The diseases collapse in desolation and disappointment. And the family lives happily ever after.

Since the puppet shows had not been held at any time during the course of the study, it had not been possible to conduct on-the-spot investigations of the mothers' reactions to the shows. Based on observations of the show at an earlier stage however, a few comments have been listed.

One of the more commendable features of the puppet show was the fact that it combined the element of entertainment and education. The efficacy of combining these two elements has been vouched for by several studies: folk theatre, songs, mimes, dances and puppet shows have often been used successfully in the past to convey information about health care (Ray, 1984; Werner & Bower, 1983). In combining these elements, however, it has also been established that great care needs to be taken to ensure that the educational messages do not get obscured by the components of entertainment. During the data collection for this study, several mothers had mentioned the puppet shows with considerable enthusiasm. When they were asked what exactly they had learned from these shows, however, their responses were somewhat vague.

For future endeavours of this kind, in order to ensure that the frivolity of the medium does not detract from the seriousness of the message, it might be useful to have a discussion immediately after the puppet show where the gravity of the issue of immunization is clearly conveyed to the community. Alternatively, a statement could be made during the course of the show itself indicating, for instance, that *all* children—like those in the show—are exposed to several risks if they are not immunized.

A second suggestion has to do with the contents of the puppet show. Prior to the finalization of programmes of this kind, it might be useful to make a visit to the field in order to ascertain the opinions and attitudes of people within the community with regard to immunization. During the data collection for the study, for instance, it was found that some women felt that since their older children had survived and thrived without immunization, there was no reason that the younger ones would not as well. (Therefore, they felt, there was no need to have the younger ones immunized).

If sentiments like these could be identified, woven into the events of the puppet show and explained away, this may help to overcome—at least in some part—obstacles to having children immunized within that particular community.

A third recommendation has to do with the size of the puppets used. During the shows held at Trilokpuri and Khanjawala, it was observed that audiences for these shows often included more than 100 people. The puppets were barely a foot in height, and therefore, could not be seen very clearly by a fairly large section of the audience. If possible, bigger puppets (2-2½' high) should be used in future, particularly where large audiences are anticipated.

Finally, observations of the puppet shows presented during the IIP indicated that greater attention needs to be paid with regard to the audibility of the puppeteers. Public address systems had not been used during most of these shows. At one of the shows in Khanjawala, a fairly large audience had collected; it was apparent that several members in this audience had not been able to hear the dialogues contained in the puppet show. In the future, the provision of public address systems may help to overcome the problem of inaudibility.

Implications

With regard to puppet shows for promoting community participation in immunization programmes, recommendations include the following:

1. When entertainment is combined with education, care must be taken to ensure that the audience does not overlook the educational messages conveyed while responding to the component of entertainment.
2. Small scale field investigations can provide useful indicators about the kinds of biases existing within a community, which could become pitfalls in a programme on immunization. Once the biases have been identified, they can be dealt with during the course of the puppet show.
3. The puppets used must be large enough for them to be seen by all members of a fairly large audience.
4. Care must be taken to ensure the audibility and clarity of dialogues contained within the show.

Information About Immunization-VII

Alternative Strategies for Media Campaigns.

During the Delhi IIP, only two forms of mass media had been used—posters and puppet shows¹³. Some limitations that might arise with the widespread use of printed posters have already been discussed, in terms of the need to cater for varying levels of literacy among communities, the need for close supervision in the distribution of the posters, and so on.

Similarly, a heavy reliance on puppet shows for information dissemination would have its own set of accompanying problems—this would necessitate several teams of talented folk puppeteers, each of whom would have to operate with a pre-written script on the subject of immunization. Further constraints would arise in terms of transporting the puppeteers to remote parts of the country, quality control in the large scale production of puppets etc.

In terms of alternative forms of media for use within immunization programmes, the most obvious one is film. Given the scope of this report, it would not be possible to list each of the many and diverse advantages that are associated with using this medium of communication. However, it would be useful to focus on at least two factors, both of which strongly indicate that films can be used effectively in large scale programmes on immunization.

Firstly, film has the unique advantage over other forms of media in being able to convey messages through two sensory channels simultaneously. The reception of information from posters and other printed materials involves only the use of the individual's visual channel, while messages received on the radio, involve using only the auditory sense. It has been widely recognized that if a message is simultaneously heard and seen, its impact is likely to be much greater.

A second point in favour of using films for communication has to do with the fact that there are several avenues available for their distribution within the country. For many years, the Field Publicity Units of the Government of India have been used to exhibit films in rural and peri-urban areas. More importantly, at this time, almost all State/Union Territory capitals and about 55,000 villages are covered by television. With the present plans for expansion, it is anticipated that by the end of 1984 television coverage in the country will be approximately 70%. Government plans for the future also include the provision of community viewing TV sets for people in rural areas and urban slums (Gill, 1984). In view of all these facts, it is apparent that film and television can be used as effective channels to ensure the widespread dissemination of information on the subject of immunization.

Radio and newspapers are two other forms of mass media that might be used for communications campaigns. Recent surveys in the country have indicated that there are 86 radio stations and 160 transmitters in the country, each offering about 15 hours of

¹³ Another publicity effort had been made: a series of rehabilitation camps for orthopaedically handicapped persons had been held in Trilokpuri and Khanjawala during the Intensive Immunization Programme. However, none of the mothers in this study had mentioned these rehabilitation camps when questioned about sources of information about immunization or about the IIP camps.

programmes every day in 25 languages and 130 dialects. Similarly, 1,173 daily newspapers are published in the country, along with 5,373 weeklies, 2,374 fortnightlies, 6,450 monthlies and 2,770 periodicals (Hartmann *et al*, 1984). Newspapers would, naturally, reach a smaller section of the population as their readership is governed by literacy as well as other socio-demographic factors (Hartmann *et al*, 1984). Nevertheless, the use of both these forms of media—radio and newspapers—can contribute significantly to the success of communications campaigns, especially in urban areas.

Apart from film, television, radio and newspapers, other forms of media that might be used in future programmes include slide-tape presentations and film strips. Decisions about exactly which kinds of media would be most appropriate in different parts of the country would, naturally, depend on the characteristics of the targetted community in terms of the availability of television and radio sets, literacy levels in the community, and so on.

Implications

The success of future communications campaigns on immunization can be enhanced considerably with the effective use of audio-visual media such as films and television programmes. Radio programmes and features in newspapers and periodicals are other forms of mass media that could be used (in addition to those used during the Delhi IIP—posters and puppet shows).

In terms of the messages conveyed by these media during different stages of the immunization programme, recommendations correspond to those that have already been made with regard to the use of posters as publicity materials. (p. 42,53).

Attitudes Towards Immunization

Attitudes Towards Immunization-1

Motivation to Have Children Immunized

It has already been mentioned that during the Delhi IIP, mothers had been provided several incentives to have their children immunized. Apart from this, programme planners had spared no efforts in minimizing the inconveniences mothers might have faced in having their children immunized: facilities were brought practically to their door-step, all facilities were entirely free of charge, the mothers were reminded about each round just before its implementation and so on.

In view of all these facts, a fairly major doubt remained in the wake of the Delhi IIP-had there been no conveniences and incentives of the kind that were provided, how many of the mothers would have still brought their children for immunization?

In an attempt to clarify this doubt, a series of three hypothetical questions were asked of the mothers in this study. Each of these questions presented some kind of imaginary obstacle to the mother, which may have prevented her from eventually having had her child immunized. The responses obtained on each of these questions have been discussed separately.

The first question in this series of three asked the mothers whether they would have sought immunization for their children even if some elders in their families had disapproved. Most of the mothers had given affirmative responses to this question. In order to statistically establish, whether or not "enough" mothers had given positive responses of this kind, however, the number of *affirmative responses* given by each group of mothers was compared with the *total number of responses* (positive and negative) by the same group.

The results of these statistical comparisons indicated that in all three groups (1, 2 and 3) in both Trilokpuri and Khanjawalathere were significant differences between the number of affirmative responses and the total number of responses given by the group.¹⁴ In other words, even among mothers whose children were completely immunized, a large number had said that had an elder disapproved, they would not have sought immunization for their children.

A plausible explanation for these findings lies in sociological data on patterns of authority within Indian families. Research in this area has clearly established that obedience of elders and deference to their wishes are extremely important values in almost all Indian communities (Ross, 1973, Mandelbaum, 1970). In view of this, it does not seem surprising that several women in this study had said that if elders in their families had expressed disapproval with regard to immunization, they would not have had their children immunized.

¹⁴ Table 3

The second in the series of three hypothetical questions enquired whether or not the mothers would have had their children immunized even if some visitors had dropped in on the day that immunization facilities were available. Analyses of responses to this question, again, revealed significant differences between the number of affirmative responses and the total number of possible responses given in all three groups. In terms of proportions, however, negative responses were fewer among mothers in Group 2 (in both Trilokpuri and Khanjawala) and in Group 3 in Khanjawala, as compared to the mothers in Group 1 in both areas and Group 3 in Trilokpuri.

An earlier section of this chapter contained the suggestion that of all the mothers in the sample, those in Group 2 were probably the most highly motivated in terms of having their children immunized. It has also been inferred that the Group 3 mothers in Khanjawala were also, possibly, highly motivated in this regard, but may have been prevented from having their children immunized due to circumstantial factors (p. 38,39).

Some support for these two conclusions is provided by the mothers' responses to this hypothetical question on motivation towards immunization, as women in Group 2 (in both areas) and in Group 3 in Khanjawala, had a higher proportion of positive responses as compared to the other groups of women.

In the last question in the series of three, the mothers were asked whether they would have had their children immunized even if immunization facilities had not been available in their localities. In this case, highly significant differences were found between the number of affirmative responses and the total number of possible responses in the case of Groups 1 and 3, in both Trilokpuri and Khanjawala. Differences were significant in the case of Group 2 mothers in Trilokpuri also, though at a lower level. In Khanjawala, almost all the mothers in Group 2 had said that they would have had their children immunized even if no facilities had been available in their own localities.

These findings provide further support for the conclusion that Group 2 did, in fact, consist of the most highly motivated mothers with regard to having their children immunized.

Implications

1. Disapproval by elders can be an important factor in preventing mothers from having their children immunized. For future communications programmes on immunization, therefore, it may be useful to aim some publicity efforts specifically at the children's grandparents and other elderly relatives.
2. Responses to the three hypothetical questions asked during the study support the conclusion that women who had had their children immunized even before the IIP, were more highly motivated than those whose children had been totally immunized during the IIP. Group 3 mothers in Khanjawala, again, appear to have had higher levels of motivation than those in Trilokpuri on the basis of their responses to these questions.

Attitudes Towards Immunization-II

Mothers' Reasons for Not Having Had Their Children Immunized

A major objective of almost all the questions included in the interview schedule for this study was to identify factors which may have prevented mothers from immunizing their children.

Given the many and diverse possibilities that were explored, it might be argued that a much simpler technique in this context may have been to have simply asked the mothers why they had not had their children immunized. While this strategy would undoubtedly have been less cumbersome than the one actually employed, one must take into cognizance the fact that several different factors may have contributed to a mother's decision not to have her child immunized. Yet it is quite possible that when questioned about these reasons, the mother would not have provided an exhaustive list of reasons, and would have mentioned only the most concrete or even the most "socially acceptable" of them. Several questions in the interview schedule, therefore, were asked with the intention of identifying some of the factors which the mothers may not have mentioned (the more "tangible" ones, as well as those that would have been more "intangible" for the mothers).

It was also, however, considered necessary to *directly* ask the mothers why their children had not been immunized: even with all the questions included in the interview schedule, it would not have been remotely possible to have covered each of the factors that may have influenced the mothers in this context. The responses of mothers to these direct questions have been presented separately for Group 3 and Group 4.

Reasons given by mothers of partially immunized children (Group 3)

When questioned on the subject, most of the mothers in Group 3 had provided fairly "legitimate" reasons for not having had their children totally immunized. These reasons included:

"Not aware of later IIP camps"	}	Trilokpuri-75.5% Khanjawala-87.9%
"Out of town during later camps"		
"Child sick during camp"		
"Child over/under age at the time of camp"		
"Non-availability of BCG vaccine"		
"Was refused immunization for the child" ¹⁵		

The second category of responses to the question, "Why did you not have your child totally immunized?" included reasons which reflected inadequate levels of motivation in the mothers. The responses given in this context included:

"No time"	}	Trilokpuri-24.6% Khanjawala-12.1%
"Intend to complete (child's immunization) in the future"		
"No escort for the child"		
Miscellaneous reasons		

¹⁵ Figure 10

Two of the responses mentioned here may require some clarification, in terms of the basis for their inclusion in this category of reasons reflecting low levels of motivation in the mothers. These responses are "Intend to complete the child's immunization in the future" and "No escort for the child". With regard to the first of these two reasons, the mothers, clearly, had not faced any real constraints in having their children totally immunized. Even though they were asked repeatedly what it was that had prevented them from totally immunizing their children, their responses remained the same, "Nothing really, but I will have it done later". (It is possible that the mothers saw this response as being the most acceptable one they could have given under the circumstances, and therefore, refused to clarify the issue any further).

Instances where the women had said that there had been no one to take their child for their final doses, similarly, seem somewhat dubious. Admittedly, it is possible that in these cases, both parents of the child worked outside the house during the day. However, when these mothers had been interviewed for this study, they had been contacted at their own homes, and during the forenoon. Further, it seems unlikely that if a parent truly believed that immunization was in fact a matter of life and death for her child, she would have found no way to have had her child completely immunized.

Responses given by mothers of non-immunized children (Group 4)

With regard to mothers whose children had received no immunization doses, the pattern of responses given was somewhat different as compared to those that had been mentioned by mothers in Group 3. The proportion of women who had had "valid" reasons for not immunizing the children was slightly lower in the case of mothers in Group 4 (in both Trilokpuri and Khanjawala). Their responses included:

"Not aware of IIP camps"	} Trilokpuri-65.7% Khanjawala-67.2%
"Out of town during IIP"	
"Child sick during the IIP"	
"Child too old to be immunized"	
"Child mentally retarded"*	
"Was refused immunization" ¹⁶	

The reasons indicative of low levels of motivation among Group 4 mothers included the following:

"No time"	} Trilokpuri-34.3% Khanjawala-32.8%
"Mother frightened"	
"Child frightened"	
"No faith in immunization"	
"Husband did not allow".	

* Two mothers in Khanjawala had mentally retarded children; they had not known that these children too needed to be immunized.

¹⁶ Figure 11

Given the mothers' responses to questions on why their children had been only partially immunized/had not been immunized, a series of implications present themselves. Firstly, it is apparent that in some cases, low levels of motivation may underlie a mother's failure to have her child immunized. The issue of how women's motivational levels can be increased has already been discussed at length in the previous section, which explored communications strategies for promoting community participation.

The second conclusion that emerges from these data is that in a large number of cases, factors beyond a mother's control may prevent her from having her child immunized. A question that would concern programme planners at this point, then, is whether or not any steps might be taken in future programmes, to counteract circumstantial constraints of the kinds that have been identified during this study.

According to the data obtained within this research, there are at least three fairly significant obstacles that could, perhaps, be focussed on in forthcoming programmes on immunization. The first two of these obstacles may not be easily controlled, yet they may well prevent several mothers from participating in any future large-scale programme that is akin to the Delhi IIP. The constraints in question relate to the possibility of the child being ill during the course of the programme, or that of the family being away from the area during the programme. In order to cater for situations of these kinds, it may help if mothers are informed, after the immunization programme is over, about other facilities for immunization that are still available to them—at local hospitals, dispensaries, and so on.

The third major obstacle that was identified during this study is one which would require somewhat greater inputs on the part of programme planners. This problem relates to a lack of awareness of immunization facilities among some mothers in the community. Several research studies have indicated that a lack of information about immunization services is among the most significant factors underlying the failure of mothers to have their children immunized (WHO South East Asia Region, 1983).

In the case of the Delhi IIP, the problem of disseminating information on the availability of services had been overcome fairly successfully: awareness of the IIP camps in both Trilokpuri and Khanjawala was undoubtedly high¹⁷. Instances where the mothers had *not* been informed about the camps, however, do carry implications for future immunization programmes, some of which have been briefly discussed here.

It has already been mentioned that during the IIP in Delhi, the responsibility for informing mothers about each of the camps lay primarily with the anganwadi workers. In fact, on the day of each round of immunization, the worker's *only* responsibility was to gather together all the children in her locality who were due to be immunized during that round. Foreseeing that the workers may not, at times, have been able to contact *all* mothers during each round of immunization (which lasted only a few hours), programme planners had provided all eligible children with immunization cards. After the administration of each dose of immunization,

¹⁷ It must be recollected that coverage figures during the IIP were over 85% in both areas (UNICEF, 1984 a). Mothers in Groups 3 and 4, therefore, actually comprised only a minor section of the entire population.

personnel at the centre made entries on these cards, indicating for the mother how many doses were still required for the child as well as the date when the next dose would be available. The intention, naturally, was to leave these cards with the mothers. However, several anganwadi workers kept the cards with themselves: they reasoned that if the cards were in their possession, this would considerably facilitate their task of identifying exactly which children were due for each round of immunization.

This minor lapse could easily be rectified in future programmes, by ensuring that immunization cards are brought upto date and are given back to the mothers after each round. However, observations in the past have shown (as may well be expected) that mothers often misplace their immunization cards or else put them away so safely that their existence is soon forgotten. For future endeavours, then, inputs apart from the immunization card would probably be required to ensure that mothers are reminded of each round just before its implementation. Several strategies might be used towards accomplishing this end. As was done during the Delhi IIP, personal communication may be used to remind the mothers just before the time that their children are to receive the next dose of immunization. Secondly, a few days before each immunization round, a series of media inputs could also be introduced within the community. It has already been suggested, for instance, that fresh batches of printed posters, film shows, television and radio programmes be used to herald each round of immunization.

Finally, the function of the immunization card—in terms of serving as a reminder—must clearly be explained to the mothers. It might be suggested to them for instance, that they put these cards in a place within their homes where they would be prominently visible, so that they would not be forgotten. It would also be useful if the dates of forthcoming immunization rounds were translated to the women in terms of dates that have relevance for them, such as the day of the full moon, that of a particular festival, and so on.

Implications

1. The results of this study indicate that a few women had not had their children immunized due to a lack of motivation. Strategies for increasing community involvement have already been discussed in preceding sections in terms of effective communications strategies for immunization programmes.
2. In some cases, situational constraints (such as that of the child being ill during the programme) may prevent mothers from having their children immunized. To cater for such eventualities, mothers should be informed about facilities that are available within their localities even after the immunization programme is over.
3. Frequently, a lack of information about immunization facilities is the reason underlying the failure of mothers to immunize their children. In future endeavours, apart from informing mothers about forthcoming programmes, it is also imperative to ensure that they are reminded about each immunization round just before its implementation. This

might be achieved with the help of

- (a) closely monitored interpersonal communication with the mothers just before each round;
- (b) the use of several kinds of mass media to announce the onset of each round;
- (c) the provision of immunization cards which clearly indicate the date of the next immunization round (preferably in terms of events that have relevance to the women).

Attitudes Towards Immunization-III Decision Makers in the Families

Two of the questions that were asked during this study aimed at identifying which of the members of the women's families had been responsible for deciding whether or not a child was to be immunized. The first of these questions was addressed to mothers of immunized children, while the second was directed at mothers of non-immunized children. Among both groups of mothers, results indicated that in most cases, the women themselves had been responsible for deciding whether or not their children were to be immunized. In almost 20-25% of the cases however, the women said that their husbands, or their mothers-in-law, had been the decision makers in the context.¹⁸

In terms of the implications arising from these data, it is apparent that publicity campaigns relating to immunization must be aimed primarily at the mothers of young children. This has, in fact, been the strategy employed in almost all programmes relating to child-health in the past. It has been recognized that it is generally the child's mother who decides whether or not her child should avail of health facilities, and that it is she, again, who actually brings the child to the health centres.

The results of this study, however, indicate that in some cases, other members of a child's family—in particular the father and paternal grandmother—may be responsible for deciding whether a child should or should not be immunized. In view of these findings, it may be necessary for publicity campaigns on immunization to reach out, to some extent, to these members of the family as well.

With regard to the involvement of children's fathers in immunization programmes, this may seem like a somewhat difficult goal to accomplish. The division of responsibilities in most Indian families is fairly clearly demarcated: the socialization and care of young children is primarily the mother's domain, while the father is the head of the household, concerned with making all the more 'important' decisions (Ross, 1973; Schiamberg, 1972).

The results of this study, however, indicate that in some cases, the women's husbands *had* considered that the immunization of their children was one of the 'important' decisions that merited their appraisal and required their consent. This finding may well provide a solution to the problem of ensuring that the children's fathers do not come in the way of their immunization. The strategy that is suggested would involve a subtle appeal to the father's 'male

¹⁸ Figures 8 & 9

ego'. The father might be told, for instance, that immunization is an extremely important matter that needs the attention of the (male) head of the household; that while their women would also be informed about forthcoming immunization programmes, they may not fully comprehend the seriousness of the issue; and that it may be necessary for the men to explain to their wives why immunization is essential, and to ensure that their children are immunized.

In terms of its actual implementation, this strategy could be accommodated quite easily during the course of the communications campaign. All publicity efforts would continue, as scheduled, to be directed at the children's mothers. Shortly before the actual implementation of the immunization programme, discussions could be organized at the all-male congregations that are customarily held within a community (village panchayat meetings, for instance, might provide a useful forum). Preferably, a male community worker should be used to initiate these discussions, along with one or two of the local leaders. (As has been suggested in a previous section of this chapter, printed posters may also be used to involve fathers in immunization programmes).

Extracts of conversation with the mothers:

"My husband feels that something might go wrong if the child is given the injections—he thinks that he can get fever or even die. I suppose I could go to the centre on the sly—but what will I do if my child dies—from where will I produce another child for my husband?"

"My mother-in-law told me not to get these injections for the child, but I decided to come here anyway. Now I'm very frightened—what if she finds out? If my child develops fever, she is sure to beat me".

With regard to convincing the women's mothers-in-law, a somewhat similar tactic might be employed. In this case, however, it may not be necessary to design or organize special inputs of the kinds that have been recommended for the children's fathers.

When the community level workers first meet with the mothers of children eligible for immunization, they could ask the women whether any of them anticipate any opposition from their in-laws, with regard to having their children immunized. The worker *herself* could then broach the subject with the older folk, conveying to them that being older and wiser, they would probably be able to effectively explain to the young mothers the relevance and need for this "innovation"—immunization for their children.

It must be admitted at the outset that neither of the two strategies outlined (for use with the children's fathers and paternal grandmothers) have been subjected to any pre-testing within the field. They are based entirely on field observations and logical deductions; their actual efficacy may be tested on a small-scale within a particular community.

Implications

1. As has been assumed in the past, the most appropriate target group for publicity efforts in immunization programmes would be mothers of eligible children, as it is they who generally decide whether or not their children are to be immunized.
2. In some cases, however, publicity efforts may need to reach out to the children's fathers or paternal grandmothers as well, as these members of the family are also sometimes involved in making decisions about immunizing young children.
3. Discussions with the children's fathers—wherein they are convinced that immunization is an important issue which merits their attention as heads of households—may help to ensure that men do not stand in the way of their children's immunization. Printed posters may also be used in this context.
4. In cases where women anticipate opposition from their mothers-in-law with regard to immunizing their children, the community level workers should be the ones to broach the subject of immunization with the older ladies: the effort should be to elicit their cooperation in “explaining to their daughters-in-law” why immunization is necessary.

Attitudes Towards Immunization-IV Children as Potential Target Groups

In terms of ensuring community participation in future immunization programmes, it may be a useful strategy to provide information about immunization to school age children. Research in the area of Child Development has shown that between 6 and 11 years, the child's intellectual abilities allow him to understand several concepts that are beyond the comprehension of younger children (Stone & Church, 1975). Further, the period of middle childhood (between 6-11 years) is an extremely formative one as many of the child's habits, attitudes and values crystallize at this stage, and often endure for life. “At the beginning of this period, (the child) is all possibilities waiting to be realized through the unfolding powers of his body and mind and the lessons his society will teach him” (Havighurst, 1952). By the end of middle childhood, most individuals have worked out their particular styles in all areas: physical, personal, intellectual and social habits.

In view of these research findings, basic messages on immunization could be introduced to children at the primary school stage. Care must be taken, however, to ensure that too many complicated messages are not conveyed to the children as this would only confuse them. It would not, for instance, be necessary to teach young children about details of the immunization schedule: they need only to be told about why immunization is necessary, and perhaps be given some information about the diseases that are prevented with immunization.

For those children who remain in school until the secondary level, it would be useful to reiterate these messages once again just before the young people graduate, get married and raise families of their own.

In terms of techniques for delivering this information, among the most effective would be to present the messages in the form of entertainment programmes. Children often tend to see school curricula as being somewhat dull and tedious. Communication on the topic of immunization, therefore, should avoid a semblance to 'routine' school subjects as far as possible. Integration of this educational message with entertainment programmes might be accomplished with the use of puppet shows, television and radio programmes, and even books and comics. Literature in the field can help to identify components that are important in the design of "entertaining educational programmes" for use with school-age children (refer Chimnani, 1984; Gill & Luthar, 1982; Naug, 1984).

Implications

1. In terms of a long-term perspective, efforts at promoting community participation (in immunization programmes) must begin with young, school-going children.
2. The most appropriate age group for instruction in this subject would consist of children between the ages of 6 and 11 years. Messages about immunization would also, however, have to be reiterated with young adolescents who are on the threshold of having families of their own.
3. With younger children, messages on the subject of immunization can be effectively conveyed with the help of entertainment programmes.

Facilities For Immunization

Questions relating to facilities for immunization were asked with the objective of ascertaining whether or not there had been any lacunae or deficits in the services provided during the IIP, which may have been responsible for the fact that some mothers had failed to have their children immunized. On the basis of responses to these questions, the intention was to derive further recommendations (if necessary) for the delivery of services in the future immunization programmes.

Facilities For Immunization—I Awareness of the Immunization Camps

Results of this study indicated that mothers in Group 1 were the most highly aware of the camps that had been held during the IIP. Next in order of awareness were the women belonging to Group 3; followed by Group 2, and finally, Group 4.¹⁹

The findings relating to Groups 1 and 2 might have been anticipated: women whose children had been immunized during the IIP would, naturally, have had more information about the IIP camps as compared to those whose children had been immunized even before the programme, or those whose children had not been immunized at all.

Inadequacies in terms of information levels about the IIP camps among Groups 3 and 4 have already been discussed in the previous section, along with recommendations for future programmes.

Facilities For Immunization—II Sources of Information about the IIP Camps

During the Delhi IIP the responsibility for informing the mothers about the different camps that were held lay primarily with the anganwadi workers. Results of the study indicated that most mothers had, in fact, heard about the camps from the anganwadi workers. The other intended source of information, mass media, appeared to have played an insignificant role in this context.²⁰

These findings correspond with the results that have been obtained on a similar question earlier in the interview schedule, which investigated the sources through which the mothers had received general information about immunization. Implications arising from both questions are, therefore, similar; these interpretations have already been discussed in detail in the section, "Information About Immunization".

¹⁹ Figure 13

²⁰ Figure 14

Facilities For Immunization—III

Problems Faced by Mothers and/or Children

Almost all the women in the study said that they had faced no problems when they had taken their children for immunization.²¹ The only exception to this general pattern was seen in the case of women in Group 3 in Trilokpuri where a few of the mothers had said that they had faced some problems.

With regard to these few instances, we are faced with the task of identifying which of the two factors was the cause and which the effect—had the problems these mothers faced lowered their incentive to have their children immunized? Alternatively, did these mothers have low levels of motivation to begin with, which contributed towards lowering their tolerance of ‘problems’?

The second of these two alternatives seems more acceptable than the first, particularly in view of the kind of problems that these women had said they had faced—which was that they had had to wait “too long” at the immunization centres before their children had been given their doses. During the IIP, every mother had to wait for her turn to have her child immunized. Several thousands of mothers had endured this wait (which, in any case, never exceeded a time limit of ½ - 1 hour)—these women had obviously been convinced enough of the need for immunizing their children to await their turn. It seems unlikely, therefore, that interminable delays at the immunization centre had actually been a significant factor in preventing women in Group 3 from having their children immunized. (Further support for this line of reasoning is provided by the fact that on the question where the women in Group 3 had directly been asked why they had failed to have their children immunized, none of the respondents had given the reason that they had had to wait too long when they had attended earlier camps).

With regard to health problems faced by children following their immunization, most of the women interviewed had, again, said they had encountered no problems in this regard.²² Further, the results of the study indicated that this factor too, could not have been responsible for the fact that Group 3 mothers had not had their children totally immunized. When directly questioned on this subject, none of the mothers in this group had mentioned the fact that their children had fallen sick after receiving one of the immunization doses, and that this factor had prevented them from getting the rest of the doses that were required for complete immunization.

Implications

A high proportion of the mothers who had participated in the Delhi IIP said that they had faced no problems in terms of inconveniences while having their children immunized, or in terms of health problems in the child following her/his immunization. With regard to the effective delivery of services during immunization camps, then, the Delhi IIP might be used as a model for similar endeavours in the future.

²¹ Figure 15

²² Figure 16

Facilities For Immunization—IV

Follow-Up Services

During the IIP in Delhi, one of the several responsibilities allocated to the anganwadi workers was to conduct follow-up visits after each round of immunization. Within their respective areas, the workers were required to visit the homes of each of the children who had been immunized, in order to detect cases, if any, where the child had fallen sick. If they did come across any such incidents, the workers were required to arrange for medical care facilities for the sick child (UNICEF, 1984 a).

Of the sample studied within this investigation, mothers in only Groups 1 and 3 had received follow-up services of the kind described (as only these two groups had participated in the IIP). Comparisons were made between these two groups, in order to ascertain whether there had been any differences between them in terms of the follow-up services provided. These comparisons were made on two variables:

- a. whether or not the anganwadi worker had visited the house following the child's immunization; and
- b. in instances where children had fallen sick after their immunization, whether or not referral services had been provided.

Results of these analyses revealed that on both variables, follow-up services in Trilokpuri had been less efficiently implemented with mothers in Group 3 as compared to those in Group 1.²³ On the basis of these findings, it might be inferred that differences in follow-up services may have contributed to the fact that Group 3 mothers in Trilokpuri had not had their children totally immunized, while those in Group 1 had continued to participate in the programme until its conclusion.

Support for this inference is provided by several field investigations that have been conducted in the past. It has been found that during the initial stages of their implementation, immunization activities normally generate a great deal of excitement and involvement with a community. However this excitement fades rapidly; motivational inputs are continuously required through the entire course of the immunization programme in order to sustain high levels of commitment to the programme within the community (WHO Expanded Programme on Immunization).

In view of these facts, it can be concluded that lacunae in follow-up services may have accounted—at least in part—for the failure of Group 3 mothers in Trilokpuri to have had their children totally immunized.

At this point, the most obvious recommendation we face is that community level personnel be monitored and supervised very closely in their work within the community. During the Delhi IIP, however, it must be noted that few efforts had been spared in this direction; yet, in spite of

²³ In Khanjawala, differences between Groups 1 & 3 on this variable were non-significant (Table 4).

all the incentives and supervision, some workers had, apparently, been somewhat lax in discharging their duties.

The problem in using community level workers for follow-up services, then, is to develop a more or less 'fool proof' method to ascertain whether or not the workers have actually made all the efforts that they report. A suggestion in this context is to use the mothers themselves (apart from the workers) in determining coverage figures during immunization rounds. On the computer print-outs that are used for registration during immunization rounds, each child's mother could be asked to put her signature or thumb print next to the entry for the dose her child had just received. This may help to avert instances of fallacious reports, and assist programme personnel in their supervision of the follow-up activities of community level workers.

Implications

If future immunization programmes are to rely heavily on the use of field-level personnel to sustain community involvement throughout the duration of the programme, follow-up activities need to be carefully monitored.

Summary of Recommendations

This chapter contains a brief summary of the essential conclusions and implications that are derived from this study. Recommendations are presented in four broad sections. The first three of these focus on communications strategies for promoting community participation, while the fourth section deals with techniques for the effective delivery of immunization services within the field.

The Message

1. At all stages of any communication programme, it must be ensured that too many informational messages are never presented together. An overload of information can lead to low retention of all messages conveyed.
2. During an immunization programme, the initial focus of all communications inputs should be on conveying one message to the community—that children can die if they are not immunized. This message could be brought to a community approximately 3-4 weeks before the commencement of the actual immunization programme. Along with this first message the community must be told about who they might contact if they desire any further information.
3. Approximately 10-14 days before the programme commences, mothers in the community would have to be told that for complete immunization, the child would need to be brought for immunization on at least three different occasions. Soon after this, the women must be informed where and when the first round of immunization would be held in their localities.
4. After the mothers actually arrive at the immunization centres, they may express the desire for further information about immunization, such as the names of preventable diseases, their symptoms and causes, and the details of the immunization schedule. Workers at the health centres must be well informed about all these subjects, and may be provided with visual and audio-visual aids in order to communicate information effectively.
5. At the time of administering each dose, the mothers must be reminded that unless the child has received *all* the doses that are required, he is still vulnerable to all the eventualities of non-immunization. (The women could also be told that they would be informed when their children required no further doses).
6. A few days before each round of immunization, the mothers must be reminded that the next camp would soon be held in their localities. Along with the details of the forthcoming immunization camp, the mothers would have to be told, once again, that unless a child has received all the immunization doses he is still vulnerable to the effects of the different diseases.

The Medium

1. Several different kinds of media can be used effectively in motivating mothers towards immunizing their children. These include interpersonal communication, films, television and radio shows, newspaper and magazine features and printed posters. The final selection of specific forms of media for use within particular communities would depend on the socio-demographic characteristics of each community in terms of access to film, television and radio, levels of literacy and so on.
2. In terms of the messages that they convey, *all* forms of media should follow the same schedule that has been designed for the entire communications campaign.
3. Repetition of messages is essential for their internalization. All “key” messages, therefore, should be simultaneously conveyed through as many forms of media as possible, to bring the people’s attention repeatedly to the same messages.
4. While designing all forms of mass media, their cultural relevance must be ensured. The dialects used and characters portrayed, for instance, must be those that the people can easily identify with. All forms of mass media must necessarily be pre-tested before their large-scale production and distribution.

The use of individual forms of media necessitate certain precautions:

Interpersonal Communication

- a. Interpersonal communication can be among the most effective methods for motivating mothers towards immunizing their children. The success of this technique, however, depends on the availability of a large team of skilled, sensitive and committed workers.
- b. Members of a community generally respond most positively to workers who are from the same community. In some cases, however, the use of local workers gives rise to two kinds of problems :
 - (i) the workers may not be taken very seriously by the mothers, being seen as “just another (young) member” from their own community;
 - (ii) by virtue of their own employment, the workers may see themselves as being somewhat “superior” to the other women in their locality.
- c. Members of communities are often willing to alter their behaviour for the approval of those who represent ‘prestige groups’ to them. In addition to the inputs of the field-level workers, therefore, it may help if major messages on the subject of immunization are also conveyed to mothers by people who appear to carry more ‘authority’.
- d. During their initial orientation, it must be ensured that the community level workers are trained to show no negative feelings (of condescension or disdain) towards the women they work with.

Posters

- a. The distribution of posters within a community must be carefully supervised. It must be ensured that they are pasted so that they are prominently visible to as large a section of the community as possible. Further, if two or more posters are intended for presentation in a particular sequence, the order of their presentation must be clearly explained to the community level personnel.
- b. Where literacy levels are extremely low, posters may have to rely more on illustrations and pictures than on the written word.
- c. When illustrations are used on posters, it would be safer to use photographs or tone drawings. Simple outline drawings can sometimes be misleading or incomprehensible, particularly to people living in relatively inaccessible parts of the country.
- d. For the future, the design of some posters aimed specifically at men may be considered. Literacy levels in India are considerably higher among males, and fathers are often involved in decisions concerning the child's immunization.

Folk theatre/puppet shows

- a. In order to be effective, combinations of entertainment and education require a delicate balance. While programmes must avoid a pedantic tone, care must be taken to ensure that the educational messages do not get obscured by the elements of entertainment.
- b. Visibility and audibility must be ensured for the entire audience.

The Target

1. Publicity efforts must be aimed primarily at the mothers of young children as it is they who generally decide whether or not the child is to be immunized.
2. In some cases, the child's father may be the decision maker in this context. The use of posters for motivating fathers has already been discussed. Apart from this, at the start of a publicity programme male community level workers—along with one or two local leaders—could hold informal discussions at the all-male gatherings that are customarily held within the community. During these discussions the fathers could be told that
 - a. immunization is an extremely important issue that merits the attention of the male head of the household, and
 - b. while their wives would be told about forthcoming immunization facilities/programmes, they may not fully comprehend the seriousness of the issue; the fathers themselves may need to explain the issue to their women and to ensure that their children are immunized.
3. A woman's mother-in-law may sometimes come in the way of having the child immunized. To guard against the eventuality
 - a. during initial encounters with the young mothers, the community workers could identify which of them anticipate opposition from their mothers-in-law;

- b. in such cases, the workers themselves could broach the subject with the older women, telling them that being older and wiser they would probably be able to 'convince' their daughters-in-law of the need for immunizing their children.
4. To promote community participation among future generations of parents, information about immunization must also be given to young children. Some suggestions in this context are
 - a. The most appropriate group for instruction on this subject would comprise of children between the ages of 6 and 11 years. This period is an extremely formative stage of childhood, and is also one at which children are intellectually mature enough to understand several important concepts that are beyond the comprehension of younger children.
 - b. It would also be useful to reiterate messages on immunization among groups of young adolescents.
 - c. Information about immunization can be effectively conveyed to children by combining messages on the subject with elements of entertainment.

The Services

Five major aspects of the delivery of services are crucial in terms of ensuring the success of an immunization programme:

- 1 Providing information about available services and motivating mothers to avail of them;
- 2 Contacting mothers just before each round of immunization;
- 3 Ensuring that the women do not face any inconveniences when they bring their children to be immunized;
- 4 Ensuring that proper methods are used for the sterilization of all equipment, in order to prevent cases of infection following a child's immunization;
- 5 Providing medical services in instances where children fall sick after their immunization.

In each of these respects, the Delhi Intensive Immunization Programme has undoubtedly proved successful. Coverage figures speak for themselves (85% in both areas); there were very few children who had not been totally immunized. The Delhi Programme, therefore, may be used as a model for future large scale immunization programmes, with a few additional precautions.

- a. In terms of motivating the communities, the success of the Delhi IIP rested almost entirely with the efforts of the anganwadi workers. These women had been provided with incentives, and had spared no efforts in making sure that mothers had their children immunized. Future immunization programmes could, perhaps, adopt similar strategies, when these techniques seem feasible and cost effective. However, in using interpersonal communication, it must be ensured that the community worker's approach is to educate

mothers into immunizing their children and not simply to coerce them into doing so. Unless mothers are helped to understand the implications of immunization, they would naturally not explain this to their children, and with each new generation of young mothers, efforts at motivating communities would have to start almost at scratch.

- b. With regard to ensuring that the women did not face any problems (in terms of inconveniences while having their children immunized or health problems in the child following his immunization), the Delhi IIP proved fairly successful. After each round of immunization, however, follow-up visits to *each* of the children's homes is essential. In cases where children fall sick after their immunization, the cause of the illness must be explained to the mothers, in order to avoid the development of beliefs that immunization leads to sickness. Further, medical care must be provided in all cases of illness following immunization.
- c. To help ensure that mothers remember the date of the next round of immunization, the children's immunization cards must be brought up-to-date and returned to the mothers after each round. Further, it would be useful if dates of all immunization rounds are explained to mothers in terms of events that have relevance to them such as the day of the full moon, of a particular festival, and so on.
- d. To aid in the monitoring and supervision of field level workers, it may help if some kind of direct contact is maintained with the children's mothers. On of the day of an immunization round, for instance, each mother might be asked to put her thumb print or signature next to the entry (on the computer records) which indicates the dose her child has just received.

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APPENDIX 1 a

Delhi

Area Profile

Two areas were selected	
Trilokpuri	an urban resettlement colony
Khanjawla	a rural block
Total population	250,000
Child population (below 2 years)	11,274
Population density	4178/km ²
Religion	predominantly Hindus
Literacy	
Male	75.4%
Female	30.7%
Per capita income	majority below Rs. 1200 (US \$ 120) per annum
Occupations	46.9% government employees 21.4% petty traders 16.6% unskilled labourers
Infant mortality rate	50/1000 live births (for the Union Territory of Delhi which includes residential Delhi)
Coverage before intensive immunization programme	22.1%
Disease prevalence	
Residual Polio cases	3.72/1000 population
Diphtheria, Pertussis, Tetanus	information not available

APPENDIX 1 b

Infrastructures Utilized

The emphasis was on using existing government and non-governmental infrastructures

Key agencies :

Department of Social Welfare (the Integrated Child Development Services Scheme)

Municipal Corporation of Delhi (the Maternity and Child Health centres)

Administration

Union Ministry of Social Welfare at the national level

Department of Social Welfare in the State

Social Welfare Officer or Development/Planning
Officer in the District

Project/Block/Ward

Primary Health Centre (PHC)

4 Doctors

(including one for ICDS)

6 Lady Health Visitors
(LHVs)

Sub-Centre

6 Auxiliary Nurse Midwives
(ANMs)

Child Development
Project Officer (CDPO)

(covers a population of
approx. 100,000)

4-5 Supervisors (In charge
of 20-25 Anganwadi Workers)

100 Anganwadi Workers
(AWWs) (each covers a
population of approx. 1000)

Helpers

Block Development Officer
(BDO)

Non-governmental Organizations

Amar Jyoti Trust (an NGO for the
rehabilitation of the orthopaedically disabled)

Delhi Catholic Archdiocese.

APPENDIX 2

Sample of computer print-out

TRILOKPURI

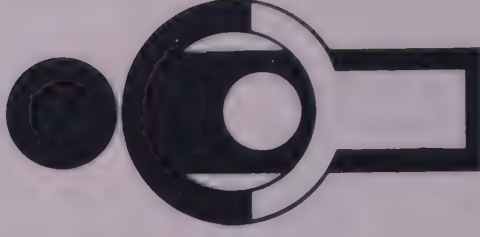
ANG.	H.NO.	CHILD NAME	AGE (MONTHS)		SEX	IMMUNISATION		STATUS
			BELOW 24 MNTHS	ABOVE 24 MNTHS		B.C.G.	D.P.T.	
19	289	SUMINDAR		48	M	NO		
		BABY		36	F	NO		
19	289	GEETA	24		F	NO		
19	293	MANJEET SINGH		36	M	YES	1	1
19	294	SURJEET		36	M	YES	1 2	1 2
19	295	NIYOOM		48	M	YES	1 2 3	1 2 3
		NISH KAUR		36	F	YES	1 2 3	1 2 3
19	297	ASHA		36	F	YES	1 2	1 2
		PAPPU	24		M	YES	1 2	1 2
19	302	CHARN SINGH		68	M	YES	1 2 3	1 2 3
		SANGITA	07		F	YES	1 2 3	1 2 3
19	323	PUTALI		48	F	NO	1	1
		DALIP		36	M	NO	1	1
19	326	SUSHMA		48	F	YES	1	1
19	328	AMARJIT		68	M	YES	1 2	1 2
19	329	PAPPU		36	M	YES	1	1
19	333	PANNO		36	M	YES	1 2 3	1 2 3
19	337	RANJEET		48	M	YES	1 2 3	1 2 3
		RAVINDAR	24		M	NO		
19	467	SHASHI SINGH		36	F	YES	1 2	1 2
		SUKHVIR	12		M	NO		
		HARJIT	02		M	NO		

प्रतिरक्षण सारणी

दवा/टीके का नाम	बीमारी जिससे बचाव करता है	लगवाने की सही उम्र
बी. सी. जी.	तपेदिक (टी. बी.)	जन्म से 3 महीने की उम्र तक एक बार
पोलियो से बचाव की दवा	पोलियो	3 से 9 महीने की उम्र तक 3 बार एक-एक महीने के अन्तर से
डी. पी. टी.	काली खाँसी, गल घोटू और टिटनस	9 महीने से 12 महीने की उम्र तक एक बार
मीजल्स	खसरा	1½ साल से 2 साल की उम्र तक एक बार
पोलियो एवं डी. पी. टी. बूस्टर	पोलियो, गल घोटू, काली खाँसी एवं टिटनस	

दिल्ली क्षेत्र में महिलाओं एवं बच्चों का विकास गहन प्रतिरक्षण कार्यक्रम

प्रतिरक्षण कार्ड



क्षेत्र: मकान क्रमांक:
 आँगनवाड़ी क्रमांक: उम्र: लिंग:
 बच्चे का नाम:
 पिता/माँ का नाम:
 पता:

ध्यान दें

- पोलियो, गल घोटू, काली खाँसी एवं टिटनस से बचाव के लिए 3 डी. पी. टी. के टीके और 3 बार पोलियो की दवा, एक-एक महीने के अन्तर से देना जरूरी है।
- यदि 2 वर्ष की उम्र तक कोई भी टीका नहीं लगा है तो बी. सी. जी. का टीका 4 वर्ष की उम्र तक और डी. टी. का टीका 5 वर्ष की उम्र तक लगवाया जा सकता है।

टीका लगवाने की सही उम्र	I	II	III	बूस्टर
बी. सी. जी. तपेदिक (टी. बी.) से बचाव का टीका	दिनांक :को फिर आईये दवा पिलाने की तारीख.....को फिर आईये दवा पिलाने की तारीख.....को फिर आईये दवा पिलाने की तारीख.....
जन्म से 3 महीने की उम्र तक एक बार	दिनांक :को फिर आईये दवा पिलाने की तारीख.....को फिर आईये दवा पिलाने की तारीख.....को फिर आईये टीका लगवाने की तारीख.....
पोलियो पोलियो से बचाव की दवा	दिनांक :को फिर आईये टीका लगवाने की तारीख.....को फिर आईये टीका लगवाने की तारीख.....को फिर आईये टीका लगवाने की तारीख.....
डी. पी. टी. गल घोटू, काली खाँसी और टिटनस से बचाव का टीका	दिनांक :को फिर आईये टीका लगवाने की तारीख.....को फिर आईये टीका लगवाने की तारीख.....को फिर आईये टीका लगवाने की तारीख.....
डी. टी. गल घोटू और टिटनस से बचाव का टीका	दिनांक :	दिनांक :		
मीजल्स छसरे से बचाव का टीका	दिनांक :			
2 वर्ष की उम्र के बाद यदि डी. पी. टी. पहले न लगा हो तो या बूस्टर लगाना हो तो	दिनांक :			
9 महीने से 12 महीने की उम्र तक एक बार	दिनांक :			

APPENDIX 4

UNICEF's Intensive Immunization Programme Survey Form (Mothers)

	Area _____	Name of mother _____
	Anganwadi No. _____	Name of child _____
	House No. _____	
	Family No. _____	

Immunization status:

	1. Not immunized before; totally immunized after IIP 2. Totally immunized before IIP 3. Not immunized before; partly immunized after IIP 4. Not immunized at all even after IIP
--	--

1. Why must children be immunized?

2		1. To prevent sickness 2. Any other (specify) _____ 9. Don't know
---	--	---

2. What are some diseases that can be prevented through immunization? (If a disease is ticked, code "1" in the box next to it. If not mentioned, code "0". If no responses are given, put "9" in each box)

3		1. Polio
4		2. T.B.
5		3. Diphtheria
6		4. Pertussis
7		5. Tetanus
8		6. Typhoid
9		7. Any other (specify) _____
		9. Don't know

3. How many doses are required for complete immunization? (Put number of doses mentioned for each disease in corresponding box. If "don't know", put "9" in the box)

10	11	12		Polio	BCG	DPT

4. What are the major symptoms of each of these diseases? (If a symptom is ticked, code "1" in the box next to it. If not, put "0". If no responses are given, put "9" in each box).

a. Polio

13	
14	
15	
16	

1. Fever and pain in head and limb
2. Weakness in limbs
3. Paralysis of affected organ
4. Any other (specify) _____
9. Don't know

b. Diphtheria

17	
18	
19	
20	

1. Child cannot eat properly
2. Swelling in the throat
3. White membrane in throat and child cannot breathe
4. Any other (Specify) _____
9. Don't know

c. Pertussis

21	
22	
23	
24	

1. Child keeps coughing
2. During bouts of coughing a whoop is heard
3. Vomiting after bouts of coughing
4. Any other (specify) _____
9. Don't know

d. Tetanus

25	
26	
27	
28	

1. Lock jaw
2. Body becomes rigid
3. Convulsions
4. Any other (specify) _____
9. Don't know

e. Tuberculosis

29	
30	
31	
32	

1. Child looks tired
2. Child loses weight
3. Persistent cough and fever
4. Any other (specify) _____
9. Don't know

5. What is the worst possible outcome of not having a child immunized?

33	
----	--

1. Death
2. Prolonged illness
3. Any other (specify) _____
9. Don't know

(If death is not mentioned)

6. Can a child die as a result of non-immunization?

34

1. Yes
2. No
9. Not applicable

7. Why do children get these diseases? *Do Not Code In Box*

35

1. Fatalistic reasons (specify) _____
2. Infections
3. Any other (specify) _____
9. Don't know

8. From where did you acquire your information about immunization?
(If a source is mentioned, code "1" in the box next to it. If it is not mentioned, put "0". If question is not applicable, code "9")

36

1. Anganwadi worker

37

2. Mass media

38

3. Neighbours/relatives

39

4. Local hospital/dispensary

40

5. Any other (specify) _____

9. No information

9. Would you have liked more information about immunization?

41

1. Yes
2. No

10. (If yes). What would you have liked to know more about?

42

1. Disease prevented

43

2. Details of symptoms

44

3. Doses required

45

4. Any other (specify) _____

9. Not applicable

11. Did you know about the immunization camps that were recently held in your locality?

46

1. Yes
2. No

12. (If yes). Where did you hear of the camps from?

47

1. Anganwadi worker

48

2. Mass media

49

3. Neighbours/relatives

50

4. Local hospital/dispensary

51

5. Any other (specify) _____

9. Not applicable

For Immunized Samples (Sample 1, 2 & 3)

1. Did you face any problems when you went to have your child immunized?

52

1. No problems
2. Had to wait too long
3. Was refused
4. Distance too much
5. Any other (specify) _____
9. Not applicable

2. Did your child face any problem after being immunized?

53

1. No problem
2. Fever
3. Abscess
4. Both fever and abscess |
5. Any other (specify) _____
9. Not applicable

(If child was immunized at camp)

3. After you had your child immunized, did someone come to you for follow up?

54

1. Yes
2. No
9. Not applicable

(If child was immunized at camp, and had faced some problem)

4. What follow-up action was taken ?

55

1. Referral
2. Medical care was received
3. None
4. Any other (specify) _____
9. Not applicable

5. What made you decide to get your child immunized?

56

1. It prevents sickness
2. It was free
3. Followed example of neighbours/relatives
4. Any other (specify) _____
8. Don't know
9. Not applicable

57

6. In your family, who decided that your child must be immunized?

1. Self
2. Husband
3. Mother-in-law
4. Father-in-law
5. Any other (specify) _____
9. Not applicable

58

7. If some elder in the family had disapproved, would you have still gone ahead with the immunization?

1. Yes
2. No/unsure
9. Not applicable

59

8. If some visitors had turned up on the day that immunization facilities were available, would you have still taken your child?

1. Yes
2. No/unsure
9. Not applicable

60

9. Had immunization facilities not been available in your locality, would you have gone elsewhere to have your child immunized?

1. Yes
2. No/unsure
9. Not applicable

For Partly Immunized Sample (Only Group 3)

1. What prevented you from having your child totally immunized?

- 0. Not aware of camp.
- 1. Too far.
- 2. No time.
- 3. Was refused.
- 4. Out of town.
- 5. No faith.
- 6. Child was sick.
- 7. Heard that children fall sick.
- 8. Any other (specify) _____
- 9. Not applicable.

61

For Non-immunized Sample (Only Group 4)

1. Why did you not have your child immunized?

- 0. Not aware of camp.
- 1. Too far.
- 3. Was refused.
- 4. Out of town.
- 5. No faith.
- 6. Child was sick.
- 7. Heard that children fall sick.
- 8. Any other (specify) _____
- 9. Not applicable.

62

2. In your family, who decided that child should not be immunized?

- 1. Self.
- 2. Husband.
- 3. Mother-in-law.
- 4. Father-in-law.
- 5. Any other (specify) _____
- 9. Not applicable.

63

Name of Investigator: _____

Date: _____

Time taken: _____

